

23. (2.75 points)

The following information is available as of June 30, 2015 for an insurance company:

Accident	<u>Cumulative Paid Claims (\$000s) as of (months)</u>			
<u>Year</u>	<u>6</u>	<u>18</u>	<u>30</u>	<u>42</u>
2012	3,450	4,313	4,528	4,573
2013	3,200	4,000	4,200	
2014	3,345	4,181		
2015	2,950			

Accident	<u>Cumulative Paid ALAE (\$000s) as of (months)</u>			
<u>Year</u>	<u>6</u>	<u>18</u>	<u>30</u>	<u>42</u>
2012	173	345	498	549
2013	160	320	462	
2014	167	335		
2015	148			

- There is no development beyond 42 months.

a. (2.25 points)

Estimate the total ultimate unpaid ALAE for all accident years using a paid ALAE-to-paid claims only development technique.

b. (0.5 point)

This insurance company expects a significant change in their mix of business that will impact accident years 2015 and later. Briefly describe one advantage and one disadvantage of using the paid ALAE-to-paid claim only technique during this change in mix of business.

EXAM 5 SPRING 2016 SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 23

TOTAL POINT VALUE: 2.75

LEARNING OBJECTIVE(S): B7

SAMPLE ANSWERS

Part a: 2.25 points

Additive Approach

paid alae to paid claims

	6	18	30	42
12	.05	.08	.11	.12
13	.05	.08	.11	
14	.05	.08		
15	.05			

additive ldfs

	6-18	18-30	30-42	42-Ult
Sel = stgt avg	.03	.03	.01	0

paid claim ldfs

	6-18	18-30	30-42	42-ult
12	1.25	1.05	1.01	
13	1.25	1.05		
14	1.25			
Sel	1.25	1.05	1.01	1
cdf	1.326	1.0605	1.01	1

	(1)	(2)	(1) x (2) = (3)	(4) = (3) – paid to dt.
AY	Ult claims	Ult ALAE ratio	Ult ALAE	Unpaid ALAE
12	4,573	.12	549	0
13	4,200 (1.01) = 4,242	.12	509	47
14	4,181 (1.0605) = 4,434	.12	532	197
15	2,950 (1.326) = 3,911	.12	469	321
				565

Multiplicative Approach

ALAE / pd Ratio

AY	6	18	30	42
12	.05	.08	.11	.12
13	.05	.08	.11	
14	.05	.08		
15	.05			

ALAE/pd ratio ldfs

AY	6-18	18-30	30-42	42-ult
12	1.6	1.375	1.09	1
13	1.6	1.375		

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14	1.6			
Sel	1.6	1.375	1.09	1
CDF	2.398	1.499	1.09	1

paid claim ldfs

AY	6-18	18-30	30-42	42-ult
12	1.25	1.05	1.01	1
13	1.25	1.05		
14	1.25			
Sel	1.25	1.05	1.01	1
cdf	1.326	1.061	1.01	1

AY	Ult ALAE Unpaid
12	$4,573 (1) \times (.12 \times 1) - 549 = 0$
13	$4,200 (1.01) \times (.11 \times 1.09) - 462 = 46,616$
14	$4,181 (1.061) \times (.08 \times 1.499) - 335 = 196,970$
15	$2,950 (1.326) \times (.05 \times 2.398) - 149 = 320,013$
	563,599

Part b: 0.5 point

Sample Responses for "Advantage"

- During this change, we can recognize the inherent relationship between paid ALAE and paid claims.
- Ratio can be judgmentally selected if calculated ratio doesn't seem appropriate.
- The development factors of paid ALAE to paid losses are less leveraged than the factors for paid ALAE.

Sample Responses for "Disadvantage"

- This mix of business change might bring with it claims that have low indemnity amounts but substantial ALAE, which would probably render this method unreliable.
- If the mix of business change causes ult claims estimate to be inaccurate → estimated ult ALAE will also be inaccurate as it is a function of this estimate.
- If the new mix of business does not maintain a similar ALAE to Paid ratio it could distort projections.
- If the mix of business increases settlement rate then we will be over-projecting ultimate claims and ultimate ALAE.

EXAMINER'S REPORT

Candidates were expected to estimate unpaid ALAE, and assess how the proposed technique would work in a changing environment.

This question was straightforward in that candidates were expected to perform basic calculations and understand the strengths / weaknesses of a single method. Candidates performed well on this question.

Part a

EXAM 5 SPRING 2016 SAMPLE ANSWERS AND EXAMINER'S REPORT

Candidates were expected to know how to use the development technique and apply the ratio technique for ALAE / Paid Claims. Two ratio development methods were acceptable – the additive approach and the multiplicative approach.

Common mistakes included:

- Not developing paid claims to ultimate
- Stopping after calculating ultimate ALAE (rather than calculating unpaid ALAE)
- Only calculating one accident year instead of all years

Part b

Candidates were expected to know an advantage and disadvantage of the paid ALAE / paid claim ratio method when there is a shift in the mix of business.

Common mistakes included:

- Providing two disadvantages or two advantages (rather than one of each)