22. (2.5 points)

Given the following information:

Cumulative Reported Claims ($000s) as of (months)

Accident Year	12	24	36
2012	10,000	15,000	16,500
2013	11,280	17,900	
2014	13,500		

Cumulative Reported Claim Counts as of (months)

Accident Year	12	24	36
2012	1,500	1,650	1,700
2013	1,650	1,815	
2014	1,815		

Cumulative Paid Claims ($000s) as of (months)

Accident Year	12	24	36
2012	5,000	12,000	15,600
2013	5,775	13,860	
2014	6,680		

Cumulative Closed Claim Counts as of (months)

Accident Year	12	24	36
2012	850	1,445	1,615
2013	935	1,590	
2014	1,030		

Case Outstanding ($000s) as of (months)

Accident Year	12	24	36
2012	5,000	3,000	900
2013	5,505	4,040	
2014	6,820		

Open Claim Counts as of (months)

Accident Year	12	24	36
2012	650	205	85
2013	715	225	
2014	785		

- There are no partial payments.
- Assume no reported development after 36 months.
- Assume an annual severity trend of 5%.

a. (0.75 point)

Assess the appropriateness of using the reported development technique for calculating ultimate claims given the data above.

b. (1.5 points)

Estimate ultimate claims for accident year 2014 using a Berquist-Sherman case outstanding adjustment.

c. (0.25 point)

Briefly explain how the Berquist-Sherman case outstanding adjustment can be considered in the reported Bornhuetter-Ferguson technique.

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EXAM 5 SPRING 2015 SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION: 22

TOTAL POINT VALUE: 2.5

LEARNING OBJECTIVE(S): B3 / B5

SAMPLE/ACCEPTED ANSWERS:

Part a: 0.75 point

Average Case Outstanding				Change	
Accident Year	12 Months	24 Months	36 Months	12-24	24-36
2012	$7,692	$14,634	$10,588	0%	23%
2013	$7,699	$17,956		13%	
2014	$8,688				

Average Paid per closed claim				Change	
Accident Year	12 Months	24 Months	36 Months	12-24	24-36
2012	$5,882	$8,304	$9,659	5%	5%
2013	$6,176	$8,717		5%	
2014	$6,485				

Sample 1:

Since the case outstanding trend is increasing at a greater rate than the 5% severity trend, using a reported development technique would result in estimates being overstated

Sample 2:

From the case outstanding triangle, there has been an increase in case outstanding in recent years. Using the reported development technique would cause an overestimation of ultimates. Reported development method is not appropriate.

EXAM 5 SPRING 2015 SAMPLE ANSWERS AND EXAMINER'S REPORT

Part b: 1.5 points

Adjusted Average Case Outstanding			
Accident Year	12 Months	24 Months	36 Months
2012	$7,880	$17,101	$10,588
2013	$8,274	$17,956	
2014	$8,688		

Adjusted Reported Claims ($000s)			
Accident Year	12 Months	24 Months	36 Months
2012	$10,122	$15,506	$16,500
2013	$11,691	$17,900	
2014	$13,500		

Adjusted Reported Development Factors			
Accident Year	12m-24m	24m-36m	
2012	1.532	1.064	
2013	1.531		
Selected	1.531	1.064	
Cumulative	1.629	1.064	

Ultimate claims = 13,500 x 1.629 = $21,991K

Part c: 0.25 point

Sample 1:

You can use the B-S adjusted LDFs to compute percent unreported in the B-F technique

Sample 2:

It can be considered in the reported development technique of B-F, just using case adequacy adjustment

Sample 3:

The B-F method is a weighted average of the development technique and the expected claims technique. If we use the B-S case outstanding adjustment to calculated adjusted reported claims, the adjusted reported development technique can be used in the B-F method.

EXAM 5 SPRING 2015 SAMPLE ANSWERS AND EXAMINER'S REPORT

EXAMINER'S REPORT:

General Commentary

Candidates performed well on this question, with many candidates receiving full credit or close to full credit if they attempted the question.

Part a

The candidate was expected to know how to test for case reserve adequacy changes, via checking the change average case outstanding along the last diagonal. Overall, candidates scored well.

The candidate was expected to calculate the unadjusted average case O/S triangle, note the increase along the last diagonal (either absolute or compared to paid severity), and conclude that the reported LDF method was not adequate. The most common errors were using the average reported triangle instead of case O/S and reviewing only AY2014 instead of all years.

Part b

The candidate was expected to know how to perform a Berquist-Sherman incurred loss adjustment. Overall candidates scored well and many candidates received full credit.

Calculation errors were the most common mistakes. Others include:

- Many candidates got detrended average case O/S correct but then failed to apply those correctly.
- Some candidates outlined the steps of the method without any attempt to actually calculate them.

Part c

Candidates were expected to determine how the Berquist-Sherman adjustment would be applied to the Bornhuetter-Ferguson method.

The most common mistakes were suggestions to replace the expected loss ratio or initial expected ultimate, as this does not incorporate the adjusted development pattern from the Berquist-Sherman technique.