28. (1 point)

Given the following ultimate claim ratio estimates based on reported claims as of December 31, 2016:

Accident Year	Development Technique	Bornhuetter-Ferguson Technique	Frequency-Severity Technique
2012	61.9%	61.9%	61.9%
2013	61.6%	60.3%	61.2%
2014	61.8%	57.1%	61.7%
2015	61.5%	52.4%	61.8%
2016	72.4%	50.7%	61.7%

- The initial expected loss ratio used in the Bornhuetter-Ferguson technique is the same in all accident years.
- There has been no change to the mix of business written by the company.
- The company has not experienced any unusually large losses.

a. (0.5 point)

Assess the selected claim development factors used in the techniques.

b. (0.5 point)

Assess the initial expected loss ratio used in the Bornhuetter-Ferguson technique.

END OF EXAMINATION

QUESTION 28	
TOTAL POINT VALUE: 1	**LEARNING OBJECTIVE(S): B8**

SAMPLE ANSWERS

Part a: 0.5 point

Sample 1
Development technique for AY 2016 may be leveraged due to immature losses. Thus, the selected development factors from 24 months on are reasonable, but the 12-24 factor could be slightly leveraged.

Sample 2
The development technique appears to have the most anomalous development at age 12-24 in AY 2016, so the 12-24 development factor seems too high. The remaining development factors seem to produce stable results.

Sample 3
The claim development factor appears appropriate except for AY 16. The 12-24 factor appears to be highly leveraged since AY 16 estimate for the development technique is higher than the other 2 methods.

Part b: 0.5 point

Sample 1
The BF method at older maturities approach the development method, so the earlier maturities are giving more weight to expected claims. This, combined with the decrease, implies the initial expected loss ratio is too low.

Sample 2
The ECR used in the BF method appears to be too low. The BF method hangs together with the development and frequency/severity methods for older years and slowly starts to decline as more weight is given to the ECR over the development method in immature years. The estimates for recent years are much lower than the other two methods which doesn't seem reasonable.

EXAMINER'S REPORT

Candidates were expected to assess the assumptions used in various reserving techniques based on ultimate claims ratios by year for different techniques.

Part a

Candidates were expected to recognize that the 12-24 LDFs were high compared to other methods / years by comparing the ultimate claim ratios from the various techniques.

Common errors included:

- mentioning case reserve strengthening as a reason for high ultimates in 2016

- not mentioning LDFs
- comparing the method ultimates as opposed to LDFs
- mentioning that B-F technique used different LDFs than development technique
- assessing the reserve techniques but making no mention of the development factors, as the question requests.

Part b

Candidates were expected to recognize that the initial expected loss ratio was low by comparing B-F results to other techniques or discussing that BF ultimates decrease as more weight is put on the ELR

Common mistakes included:

- saying the ELR was too high
- discussing the LDFs within the BF method instead of the ELR