23. (1.75 points)

An insurance company writes only private passenger auto (PPA) and homeowners (HO) insurance products. It buys no reinsurance.

a. (0.75 point)

Briefly describe three reasons why it might be difficult to reconcile the data used in the Appointed Actuary's analysis to Schedule P.

b. (0.5 point)

Explain why the Appointed Actuary's point estimate may differ from the midpoint of the range of reasonable estimates.

c. (0.5 point)

Given the following information for this insurer:

Line	Appointed Actuary's Range of Loss & LAE Reserve Estimates		Management Booked Loss & LAE Reserves
	Low Reasonable	High Reasonable	
PPA	$20 million	$40 million	$60 million
HO	$80 million	$100 million	$60 million
Total	$105 million	$135 million	$120 million

Identify the type of opinion that the Appointed Actuary should issue for this company, and briefly explain the rationale.

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION: SPRING 2018 EXAM 6US, QUESTION 23	
TOTAL POINT VALUE: 1.75	**LEARNING OBJECTIVE: D**

SAMPLE ANSWERS

Part a: 0.75 point

- Different aggregation of data. For example, accident year vs. calendar year vs. policy year vs. discovery year.
- Different accounting for salvage and subrogation (net vs. gross)
- Schedule P Part 1 may include tabular discounts not included in the data
- Some coverages are long tailed and Schedule P only includes 10 years of data
- Appointed actuary might use different breakouts than Schedule P (LOB, states, etc)
- Sometimes there are manual adjustments in either Schedule P or in the appointed actuary's data
- The date of information in the data and Schedule P may differ

Part b: 0.5 point

- If the distribution of ultimate losses is skewed the midpoint may not represent the point with the highest probability of occurring.
- The appointed actuary's estimate is supposed to be the appointed actuary's best estimate, not necessarily the midpoint of the range. This might happen if the distribution in actuary's analysis is asymmetrical or skewed.
- The appointed actuary's point estimate can be derived by traditional reserving methods while the range can be derived from simulations of differing assumptions. The midpoint is not necessarily the same as the central estimate.
- If a particular point is more likely (or the likelihood distribution of outcomes is skewed in other words) then the actuary's point estimate will not be in the middle of the range.
- If there is a risk of catastrophe losses (low frequency, high severity) the point estimate will most likely be below the midpoint of the range. The high end estimates will need to consider the potential for catastrophes.

Part c: 0.5 point

- Reasonable. Because the total reserve is within the range estimate. So even by line it would be redundant for PPA and inadequate for HO the SAO should issue a reasonable opinion for the whole business.
- The appointed actuary should issue a reasonable opinion as the opinion is issued for the total reserves not by lines of business. The carried reserves lies within the range of actuary's reasonable estimates, thus is reasonable.
- Reasonable opinion. Actuary opines on total aggregate reserves not by line of business and the booked amount of 120m is within range of 105m and 135m

EXAMINER'S REPORT

Candidates were expected to understand reasons why an actuary's Schedule P reconciliation may be challenging, as well as why the actuary's central estimate may differ from the midpoint of the range and what type of opinion should be issued under a specific circumstance.

Part a

Candidates were expected to describe why it would be difficult to reconcile the data used in the appointed actuary's analysis to data in Schedule P.

Common errors include:
- Not providing a comparison between data in the actuary's analysis and data in Schedule P, but instead stated characteristics of Schedule P or the actuary's data. For example, just stating "discounting" without an explanation of why this may lead to difficulty in performing the comparison.
- Stating that Schedule P or the actuary's data would be distorted by commutation transactions. This is not the case since the company does not buy reinsurance.
- Stating that the actuary's analysis may be done separately for each line of business while Schedule P Part 1 is only shown on an aggregate level. This is not correct since separate Schedule P Part 1 exhibits are created for each line of business.
- Stating that treatment of reinsurance ceding percentages may differ between Schedule P and the actuary's analysis. This is not correct since the company does not buy reinsurance.

Part b

Candidates were expected to explain why the appointed actuary's point estimate may differ from the midpoint of the range of reasonable estimates.

Common errors include:

- Stating that the midpoint (also known as the median) is the average of the distribution. That is only the case if the distribution is symmetrical.
- Stating that because the distribution of the reserves is not uniform, the midpoint is not the most likely selection. This is not correct since there are non-uniform distributions for which the midpoint is the most likely selection (e.g. normal distribution). The most likely point of a distribution is not the midpoint if it is asymmetric.
- Stating that the midpoint of the reserve distribution is selected by management while the point estimate is selected by the actuary. The company may book a reserve amount that does not have to be the midpoint.
- Stating that the actuary can judgmentally select any point within the range without providing further explanation that the selection is motivated by skewness of the reserve distribution.

Part c

Candidates were expected to view the information of the insurer and identify the type of opinion that the appointed actuary should issue. They were also expected to explain the rationale for this selection.

Common errors include:

- Stating that a qualified opinion should be given since the PPA reserves are redundant and the homeowners reserves are inadequate. This is incorrect since the opinion is based on the total

company reserves.
- Providing a separate opinion for each line of business (example PPA is redundant and the homeowners is inadequate). This is incorrect since only one opinion is given and is on the total company reserves.
- Providing a correct opinion without expressing the rationale for the conclusion.

QUESTION: SPRING 2018 EXAM 6U, QUESTION 24	
TOTAL POINT VALUE: 3	**LEARNING OBJECTIVE: D**
SAMPLE ANSWERS	

Part a: 1 point

Sample 1

    A. Range of actuary's estimate, net and/or gross
    B. Point estimate, net and/or gross
    C. Company carried reserve, net and/or gross
    D. Difference between company's carried reserve to A and B

Sample 2

    A. Actuary's low end of reasonable range for net L&LAE reserves
    B. Actuary's point estimate for L&LAE reserves (net)
    C. Company carried L&LAE reserves (net)
    D. Difference between carried and actuary point estimate or C-B

Part b: 0.75 point

Sample 1
A regulator can see if development has been excessive in determining if the company has been adequately setting reserves. If there has been consistent under reserving as shown by adverse development >5% in at least 3 of 5 years they may be concerned with solvency strength.

Sample 2
Regulators may use item E to see if the company may be under reserving (indicated by having 3 or more years with 1 year development > 5% of prior surplus). Can also use to see what is driving the adverse development (e.g. asbestos reserves)

Part c: 1.25 points

Sample 1

- 2015: 1600 / 39,400 = 4.1%
- 2014: 2400 / 39,950 = 6.0%
- 2013: 2050 / 44,520 = 4.6%