8. (2.75 points)

Given the following average severity, an actuary wants to validate if anti-selection impacts its Increased Limits Factors for a given insurance coverage:

Severity limited to:	**Policy Limit = $25,000**	**Policy Limit = $50,000**
$10,000	$4,000	$6,000
$25,000	$6,500	$8,000
$50,000	$9,000	$10,500

50% of the policies have a $25,000 policy limit and 50% of the policies have a $50,000 policy limit.

a. (1.25 points)
Demonstrate if anti-selection impacts the ILFs.

b. (1.5 points)
Identify and briefly describe two possible forms of anti-selection for ILFs and give one example for each.

CONTINUED ON NEXT PAGE

EXAM 8 FALL 2016 SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION: 8

TOTAL POINT VALUE: 2.75 | **LEARNING OBJECTIVE(S): B1**

SAMPLE ANSWERS

Part a: 1.25 points

Sample 1

With anti-selection ILF:	No anti-selection ILF:
$25K = (6,500 / 4,000) = 1.625	$25K = (6,500+8,000) / (4,000+6,000) = 1.45
$50K = (9,000 / 4,000) = 2.25	$50K = (9,000+10,500) / (4,000+6,000) = 1.95

We can see the ILFs with anti-selection are different than without anti-selection.

Sample 2

Limit = $25K	Limit = $50K
I($10K) = 1	I($10K) = 1
I($25K) = (6,500 / 4,000) = 1.625	I($25K) = (8,000 / 6,000) = 1.333
I($50K) = 2.25	I($50K) = 1.75

The ILF under two policy limits is significantly different. This shows anti-selection impacts the ILF. If no anti-selection, should be equal.

Sample 3

I($10K) = (6,000 / 4,000) = 1.5
I($25K) = (8,000 / 6,500) = 1.23
I($50K) = (10,500 / 9,000) = 1.17

When the severity limitation increases, ILF decreases, so there is anti-selection.

Part b: 1.5 points

Sample 1

Adverse Selection: Higher risk insureds choose higher policy limits
Possible reason: aware of their own riskiness, choose high limits to protect themselves
Favorable Selection: Safer insureds choose higher limits
Reason: safer risks are likely more financially stable, more able to afford higher limits

Sample 2

Adverse Selection

- Higher limits generate higher ILFs
- The liability lawsuit and settlement may be impacted by the size of the limit

Favorable Selection

- Higher limits generate lower ILFs
- Some large sized insured are good risks, they choose high limit because they have more assets to protect

Sample 3

Adverse Selection

- This is when worse than average insureds purchase higher policy limits, so worse than average loss experience is seen on the higher ILFs

- Example – insureds who expect to need high limits because they have a lot of large losses purchase high policy limits

Favorable Selection

- This is when better than average insureds select higher policy limits, so better than average loss experience is observed for higher ILFs
- Example – underwriting is willing to give good insureds higher policy limits

EXAMINER'S REPORT

Part a

Candidates were expected to understand anti-selection, and that the presence of it results in different ILFs between the total population and the group. They were expected to calculate the ILFs with and without anti-selection, and conclude whether anti-selection exists.

Common mistakes include:

- Concluding that there is anti-selection because the limited severities differed between policy limits $25K and $50K.
- Testing for ILF consistency to determine whether there is anti-selection. This is the wrong test as the consistency test will not always fail if there is anti-selection.

Part b

Candidates were expected to identify two different types of anti-selection: Adverse/Negative/Unfavorable/etc., and Favorable/Positive/Beneficial/etc. They were also expected to describe a relationship between high limit policies and good/bad loss experience.

Common mistakes include:

- Not describing what adverse or favorable anti-selection was, but only giving an example (e.g. court settlements are influenced by policy limit – this does not give any information on performance of high limits).
- Giving a general description of Adverse Selection which was not specific to impact on ILF (e.g. mispricing model that attracts more high risk insureds – this description is not specific to ILF).