4. (0.75 point)

An insurance company is launching a new telematics program for their private passenger automobile book of business. Telematics devices record various attributes such as miles driven and braking practices. Management decided to give a 5% discount to all customers that participate in the program. The Department of Insurance questions the filing and wants the company to address the following potential concerns:

- Risk of adverse selection
- Relationship between risk and expected outcomes
- Practicality of monitoring the discount's effectiveness

Defend the use of the discount by briefly addressing each of the concerns in light of Actuarial Standard of Practice No. 12, Risk Classification.

CONTINUED ON NEXT PAGE

SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 4	
TOTAL POINT VALUE: 0.75	**LEARNING OBJECTIVE(S): A1**

SAMPLE ANSWERS

Sample 1

- Risk of adverse selection:
  - Drivers who know that they drive poorly are unlikely to submit to monitoring.
- Relationship between risk and expected outcomes:
  - Drivers are more likely to drive safely if they know they are being monitored. Therefore, drivers with the discount have a lower expected loss cost.
- Practicality of monitoring the discount's effectiveness:
  - Adoption rates and the experience of non-adopters vs. adopters can be analyzed over time.

Sample 2

- Risk of adverse selection:
  - Adverse selection is not a concern as users of telematics are not likely to be higher cost customers due to improved driving habits.
- Relationship between risk and expected outcomes:
  - The discount is justified as expected outcomes of telematics users is lower costs due to the improved driving habits.
- Practicality of monitoring the discount's effectiveness:
  - The discount is practical to monitor as the company can create a telematics class in their GLM.

Sample 3

- Risk of adverse selection:
  - Risky drivers are less likely to purchase telematics devices since their fast driving / quick braking practices will be recorded. This will attract less risky drivers.
- Relationship between risk and expected outcomes:
  - It is likely that opting for the telematics program will have a correlation with loss experience since less risky drivers will opt for the program (so giving a discount will relate to loss experience).
- Practicality of monitoring the discount's effectiveness:
  - It should be easy to monitor drivers that have the device and measure their loss experience vs. those that don't to see if the discount is appropriate.

Sample 4

- Risk of adverse selection:
  - Worse drivers will not want to be monitored so will either pay the extra 5% or go somewhere else. Drivers control whether they get discount.
- Relationship between risk and expected outcomes:
  - Causality, drivers that know they're being monitored will drive more cautiously → fewer accidents → lower losses
- Practicality of monitoring the discount's effectiveness:
  - Easy to collect loss data by group since discount will be listed in policy in-force as

Y/N then just need to compare loss ratios as they become available. This is being done by other auto companies (used in industry).

Sample 5

- Risk of adverse selection:
  - Only good drivers will opt into this program, so it should help avoid adverse selection and warrant the discount.
- Relationship between risk and expected outcomes:
  - There is an obvious connection between miles driven, braking practices, and losses. We'd expect someone who opts into this program to have fewer miles driven plus better braking, leading to fewer losses.
- Practicality of monitoring the discount's effectiveness:
  - The device will record data so it will be possible to see if drivers opting in are actually better drivers plus have fewer losses, deserving of a discount.

Sample 6

- Risk of adverse selection:
  - Customers who drive infrequently and/or do not brake harshly would seek out a telematics device, assuming future lower premium for them. Therefore, there is potential for favorable selection.
- Relationship between risk and expected outcomes:
  - Given the above, the better risks will have a higher propensity to participate, meaning we would expect the participants to have lower expected losses.
- Practicality of monitoring the discount's effectiveness:
  - As data are collected under the new program, and risks are flagged as participants, we can monitor the effectiveness and reasonability of the 5% magnitude.

Sample 7

- Risk of adverse selection:
  - There shouldn't be risk of adverse selection. Drivers willing to get device are probably lower risk.
- Relationship to loss:
  - Drivers will probably drive more cautiously with device. Should have a relationship to discount.
- Practicality:
  - Should be easy to group risks by insureds with/without device.

Sample 8

- Risk of adverse selection:
  - Insurer can avoid adverse selection since telematics would enable greater risk equity.
- Relationship between risk and expected outcomes:
  - Use industry research / expert opinion to prove that loss cost varies by telematics.
- Practicality of monitoring the discount's effectiveness:
  - I assume insurer has prepared databases correctly, should be practical to compare

loss ratios between those using devices vs. those not using devices and adjust accordingly going forward.

EXAMINER'S REPORT

Candidates were expected to defend the use of the 5% telematics discount by addressing each of the concerns from the Department of Insurance. Many candidates answered the question without relating their responses to the discount given to all customers that participate in the program.

Common mistakes included:

- Discussing the appropriateness of using the attributes recorded by the telematics device (miles driven and braking practices) rather than defending the 5% discount given to all participants
- Arguing against the use of the discount instead of defending
- Stating that the discount was supported by Actuarial Standard of Practice No. 12 but not providing justification
- Explaining concepts discussed in Actuarial Standard of Practice No. 12 but not relating them back to the 5% discount
- Providing justification around the costs and benefits of implementing the telematics program rather than justifying the 5% discount
- Stating that the company would be adversely selected against if they did not implement the discount(while there is a possibility of adverse selection for both adoption and non-adoption of the discount, candidates needed to directly address the selection risk of adopting the discount, regardless of how widespread UBI might be in the marketplace)
- Discussing the long-term benefits of implementing telematics rather than the appropriateness of the discount, which is applied as soon as the policy enrolls in the program
- Stating that the 5% discount could be used to incentivize policyholders to join the program and that this will be recouped once the company starts rating on telematics attributes(while possibly true, this did not directly address any of the criteria in the question)