

EXAM 6 – CANADA, FALL 2015

1. (4 points)

A pricing actuary is working for a major insurer in the province of Ontario. After meeting with the executive team, he is asked to prepare a Major Private Passenger Automobile Insurance rate filing to Financial Services Commission of Ontario (“FSCO”).

a. (0.75 point)

In preparing the loss data for the overall rate level indication, briefly discuss how each of the following is treated:

- i. reinsurance transactions
- ii. insurer’s cession to the Risk Sharing Pool
- iii. losses incurred on Facility Association Residual Market risks.

b. (1.75 points)

This insurer’s rating algorithm consists of three territories. After reviewing the territorial indication for a given coverage, the following changes are proposed in the rate filing.

Territory	Current Territory Differentials	Indicated Territory Differentials	Proposed Territory Differentials
1	1.10	1.20	1.12
2	1.00	1.06	1.05
3	0.90	0.75	0.75
Overall	1.00	1.00	0.97

Assuming the territorial indications are actuarially sound, demonstrate whether the proposed territorial differentials meet the requirement for approval.

c. (0.5 point)

Briefly describe the two bases of justification that can be used to support proposed changes to its current group discount.

<< QUESTION 1 CONTINUED ON NEXT PAGE >>

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d. (0.5 point)

The actuary is proposing to introduce a “Winter Tire Discount” but realized that the insurer’s database has never tracked winter tire related information. Describe appropriate supporting information that can be used by the actuary to justify this discount with FSCO.

e. (0.5 point)

A monthly premium payment plan is being proposed for 12-month term policies. It requires an initial payment equal to 3 monthly installments of the total premium and charges an interest rate of 5 percent of the total premium. Briefly describe two changes to the proposal before obtaining FSCO approval.

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EXAM 6-CANADA SAMPLE ANSWERS AND EXAMINER'S REPORT

QUESTION 1																																									
TOTAL POINT VALUE: 4	LEARNING OBJECTIVE: A2																																								
SAMPLE ANSWERS																																									
Part a: 0.75 point																																									
<ul style="list-style-type: none">Sample Response #1<ul style="list-style-type: none">I. Reinsurance transactions are not considered, the indication uses direct premiumsII. Cessions to the risk sharing pool are kept in the losses as they were never cededIII. Losses incurred by FARM risks are excluded from the loss dataSample Response #2<ul style="list-style-type: none">I. Reinsurance transactions are not included when preparing the loss data for the overall. They're not supposed to affect the price charged to the insured.II. Cessions to the Risk Sharing Pool are considered as "normal" business so you should include them in your loss data.III. FA are priced with their own premiums, so you can't add them to your loss data for the overall indication.IV.																																									
Part b: 1.75 points																																									
<ul style="list-style-type: none">No candidate provided a solution that was awarded full credit. Example of a solution that would have received full credit:																																									
<table><tr><th>Territory</th><th>[4]</th><th>[5]</th><th>[6]</th><th>[7]</th><th>[8]</th><th>[9]</th><th>[10]</th></tr><tr><td>1</td><td>1.20</td><td>9.1%</td><td>1.15</td><td>5.0%</td><td>Yes</td><td>Yes</td><td>Yes</td></tr><tr><td>2</td><td>1.06</td><td>6.0%</td><td>1.08</td><td>8.2%</td><td>Yes</td><td>No</td><td>Yes</td></tr><tr><td>3</td><td>0.75</td><td>-16.7%</td><td>0.77</td><td>-14.1%</td><td>Yes</td><td>Yes</td><td>No</td></tr><tr><td>Overall</td><td>1.00</td><td>0.0%</td><td>1.00</td><td>0.0%</td><td></td><td></td><td></td></tr></table>		Territory	[4]	[5]	[6]	[7]	[8]	[9]	[10]	1	1.20	9.1%	1.15	5.0%	Yes	Yes	Yes	2	1.06	6.0%	1.08	8.2%	Yes	No	Yes	3	0.75	-16.7%	0.77	-14.1%	Yes	Yes	No	Overall	1.00	0.0%	1.00	0.0%			
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<p>[1]: Current Territory Differentials [2]: Indicated Territory Differentials [3]: Proposed Territory Differentials [4]=[2]/[2 Overall] : Rebased Indicated Territory Differentials [5]=[4]/[1]-1: Rebased Territorial Indication [6]=[3]/[3 Overall]: Rebased Proposed Territory Differentials [7]=[6]/[1]-1: Rebased Territorial Proposal [8]: In the Direction of the Indication? ([5] and [7] in the same direction) [9]: Between 0% and the Indication? ([7] lower than [5]) [10]: Less than 10%? ([7] lower than 10%)</p>																																									
Part c: 0.5 point																																									
<ul style="list-style-type: none">Sample Response #1<ul style="list-style-type: none">I. If competitors are doing proposed changes alreadyII. If lower expenses (i.e. acquisition expenses) for groupSample Response #2<ul style="list-style-type: none">I. Lower acquisition costII. Lower loss cost																																									

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- Sample Response #3
 - I. Change can be based on reduce loss cost for the group
 - II. Based on reduced expenses for the group

Part d: 0.5 point

- Sample Response #1
 - I. Use applicable external data that the source can be identifiable and the data are applicable
- Sample Response #2
 - I. The insurer could use industry information or available competitor information and base a credible estimate on this.
- Sample Response #3
 - I. The actuary can use supporting data from another jurisdiction that it has successfully implemented winter tire discount. Data such as : claims data and discount takeup rate.

Part e: 0.5 point

- Sample Response #1
 - I. To have FSCO approved interest rate for a 12 month policy cannot be higher than 3% and the initial payment can be for a maximum of 2 month.
- Sample Response #2
 - I. Only take initial payment of 1 month installment and charge only 3% interest
- Sample Response #3
 - I. For 12 month term,
 - initial payment=2 monthly payment
 - interest rate=3%

EXAMINER'S REPORT

No candidates received full credit for this question. In general, candidates struggled with part b, in particular by not recognizing the requirement to rebase the differentials. Also, some candidates mistakenly linked question c to question b in their response.

EXAM 6-CANADA SAMPLE ANSWERS AND EXAMINER'S REPORT

Part a
<p>Many candidates received full credit for this part. However, several candidates misunderstood the question and did not provide enough clarity in their response to receive full credit (simply stating include or exclude for part i. and ii.).</p> <p>The most common errors were:</p> <ul style="list-style-type: none">• Reinsurance transactions:<ul style="list-style-type: none">○ Many candidates were too vague in their response, simply stating “exclude” or “include” which is difficult to interpret the meaning for “reinsurance transactions”○ Many candidates said to “include reinsurance transactions” which was interpreted to mean that losses net of reinsurance were used.• Insurer’s cession to the Risk Sharing Pool<ul style="list-style-type: none">○ Many candidates responded that the loss data should include the insurer’s cession to the Risk Sharing Pool• Losses incurred on Facility Association Residual Market risks<ul style="list-style-type: none">○ Several candidates responded that these losses should be included
Part b
<p>No candidates received full credit on this part.</p> <p>Most candidates received partial credit for explaining the concepts contained within FSCO territorial regulations. Very few candidates recognized the need to re-base the proposed territorial differentials before applying the regulations on the direction of the proposal vs. the indication, the +/- 10% range, and that the proposal should be between no change (0%) and the indication.</p> <p>The most common errors were:</p> <ul style="list-style-type: none">• Not rebasing of the proposed differentials before calculating the proposed changes• Not recalling each of the territorial requirements with respect to comparing the indicated differentials and the proposed differentials• Many candidates did not demonstrate the reasons for their conclusions• Several candidates left this part blank
Part c
<p>The majority of candidates received full credit for this part.</p> <p>The most common errors were:</p> <ul style="list-style-type: none">• Several candidates used part b to respond to this part even though the two parts were not related (they attempted to use the territorial differentials in part b to justify changes to the group discount in part c)• Several candidates left this part blank
Part d
<p>The majority of candidates received full credit for this part.</p> <p>The most common errors were:</p> <ul style="list-style-type: none">• A few candidates provided a very brief response such as “use industry data” without further support such as identifying the source• Several candidates left this part blank

EXAM 6-CANADA SAMPLE ANSWERS AND EXAMINER'S REPORT

Part e

The majority of candidates received full credit for this part.

The most common errors were:

- Stating that interest rate for monthly installment should be lower than $x\%$, x being different than 3%
- Stating that no interest rate can be charged for monthly installment
- Stating that there can't be an initial payment greater than the subsequent monthly payments