

EXAM 6 – UNITED STATES, FALL 2016

2. (2.5 points)

An insurance company uses credit-based insurance scoring as part of its personal auto rating plan. A recent severe countrywide economic downturn is believed to be causing a lowering of credit-based insurance scores among consumers.

a. (0.5 point)

Describe one concern regulators may have regarding the response of the company's rating plan to the changes.

b. (1 point)

Briefly describe and justify two ways in which the pricing actuary could reflect the impact of the economic downturn on credit-based insurance scores in an upcoming rate filing.

c. (1 point)

To protect consumers against the possibility of large rate swings due to deteriorating credit-based insurance scores, the regulator requests that the insurer cap the renewal rate increase for each policyholder. Describe two ways this might violate the ratemaking principles outlined in the CAS "Statement of Principles Regarding Property and Casualty Insurance Ratemaking."

## SAMPLE ANSWERS AND EXAMINER'S REPORT

<b>QUESTION 2</b>	
<b>TOTAL POINT VALUE: 2.5</b>	<b>LEARNING OBJECTIVE: A1</b>
<b>SAMPLE ANSWERS</b>	
<b>Part a: 0.5 point</b>	
<ul style="list-style-type: none"> <li>• Regulators would be concerned that insureds would have an increase in premium AND (one or more of the following): <ul style="list-style-type: none"> <li>○ without a change in inherent risk</li> <li>○ it would be excessive or company would earn excessive profits</li> <li>○ it would disproportionately impact protected classes or lower income people or lower socioeconomic insureds</li> <li>○ would be unaffordable</li> <li>○ would lead to less availability of insurance</li> <li>○ it is unfair or inequitable or not actuarially sound</li> <li>○ Not good for the public</li> <li>○ out of consumers control</li> <li>○ it would be unwarranted or unnecessary</li> <li>○ solely due to lower aggregate CBIS and no other justification</li> <li>○ consumers complain to state regulators</li> </ul> </li> <li>• Regulators would be concerned that renewing customers with falling CBIS scores could see increased insurance rates before rates are adjusted to adapt to new conditions.</li> <li>• If insurer only provides rates for people with high credit scores, residual market will increase as more people will fall below insurers threshold.</li> </ul>	
<b>Part b: 1 point</b>	
<p>Any two of the following:</p> <ul style="list-style-type: none"> <li>• If the current rate relativities between score classes remains valid, and CBIS scores are dropping in essentially a uniform fashion, the pricing actuary would respond to the distributional shift via an offsetting change to the base rate. There would be no long-term impact on the premium collected just from the CBIS shift.</li> <li>• The actuary should be regularly reviewing the cost relativities in the various CBIS rating categories. If the cost relativities between CBIS score classes are shifting over time, the pricing actuary will adjust the relativities to reflect the emerging cost differentials. (A dramatic shift in credit scores (from the economic downturn) could disrupt the current relative rates among risks with insurance scores. Insurers may adjust indicated rate differentials for different insurance score rates.)</li> <li>• Remove CBIS from rating by using a proxy to replace it or recalibrating other rating variables absent the CBIS</li> <li>• Incorporate the rising premiums into the premium trend selection, which will result in a decrease in the overall indication</li> <li>• Use CBIS only in accept/reject or tier placement underwriting decision making instead of in rating.</li> <li>• Capping the overall premium change that insured would see as a result of their credit</li> </ul>	

## SAMPLE ANSWERS AND EXAMINER'S REPORT

score change

- Remapping or changing the ranges of CBIS corresponding to certain factors in rating
- Freezing insureds' credit scores or using an average score over several years to limit the impact
- Restrict CBIS score changes from resulting in an increase in premium. Only allow the impact to be premium neutral or result in a decrease.
- Change the rate differentials similarly to how Homeowners rating will change when the housing market shifts.
- Calculate the overall premium after the downturn using CBIS from before the downturn and compare to the total charged premium after the downturn.
- Compare the overall changes in CBIS for the company's insureds to the countrywide change in CBIS.
- Allow the rate changes to flow through as the insurer expects worse loss experience in the way of more fraud and moral hazard on the part of its insureds.
- Use more conservative LDF selections in anticipation of overall losses.
- Introduce a rating factor that is indicative of the performance of the overall economy to reflect any recession/depression simultaneously rather than whenever each individual state got to it.

### Part c: 1 point

Any two of the following:

Principle 1: A rate is an estimate of the expected value of future costs.

- Capping premiums results in the expected future costs being higher than the rate charged.

Principle 2: A rate provides for all costs associated with the transfer of risk.

- By capping individual insureds and not adjusting the premiums of the other insureds, the company is failing to provide for all costs associated with the transfer of risk on an aggregate level

Principle 3: A rate provides for the costs associated with an individual risk transfer.

- Capping individual premiums prevents insurer from charging a rate that accounts for all costs associated with the transfer of risk on that individual.
- If the insurer subsidizes the capped insureds by raising the rates on the uncapped insureds, the uncapped insureds are paying more than the costs associated with individual risk transfer.

Principle 4: A rate is reasonable and not excessive, inadequate, or unfairly discriminatory if it is an actuarially sound estimate of the expected value of all future costs associated with an individual risk transfer.

- Capped rates would be lower than the actuarial sound rate prescribed by the rating plan, leading to overall inadequate rates.
- Capped rates would be lower than the actuarial sound rate prescribed by the rating plan, leading to individual inadequate rates.
- Two identical risks profiles could be provided different rates if one is a new insured and the other is renewing and therefore subject to the cap.

## SAMPLE ANSWERS AND EXAMINER'S REPORT

<ul style="list-style-type: none"><li>• If the insurer raises rates on the uncapped insureds, to meet an overall premium need, the premium they are paying could be excessive.</li><li>• It is unfairly discriminatory to cap renewal business and not new business.</li><li>• If insureds receiving the cap tend to have lower CBIS scores, this could be unfairly discriminatory</li></ul>
<b>EXAMINER'S REPORT</b>
The candidates were expected to understand the interaction between regulators and practicing actuaries as well as how regulation and actuarial work is impacted by the "Statement of Principles Regarding Property and Casualty Insurance Ratemaking".
<b>Part a</b>
<p>The candidates were expected to describe regulator concerns about the use of credit scoring in insurance rating.</p> <p>Common mistakes included:</p> <ul style="list-style-type: none"><li>• Saying that premiums would increase without mentioning a regulators concern about that change</li><li>• Stating that higher CBIS scores would lead to a premium increase without any further comment about regulator concerns</li></ul>
<b>Part b</b>
<p>The candidates were expected to describe two ways that a rating plan could be modified in response to a changing environment where a rating variable may change in predictive or explanatory power. Candidates provided a wide variety of responses that successfully responded to this question.</p> <p>Common mistakes included:</p> <ul style="list-style-type: none"><li>• Saying they actuary should change base rates without saying anything about a review of the CBIS relativities</li><li>• Vague answers such as "analyze the data" or "adjust the factors"</li></ul>
<b>Part c</b>
<p>The candidates were expected to apply the Statement of Principles on Ratemaking to CBIS.</p> <p>Common mistakes included:</p> <ul style="list-style-type: none"><li>• Stating a principle that is not part of the statement of principles in question</li><li>• Responding to 'discrimination' instead of 'unfair discrimination'</li><li>• Substituting expected loss for expected cost</li><li>• Responding to violation of the principles unrelated to capping as described in the question</li><li>• Listing a principle without mentioning a violation</li></ul>