

7. (1.75 points)

A regulator wants to benchmark the underwriting profit provisions between companies.

For Company A's rate filing, the following is assumed:

Projected total fixed costs	\$50,000
Projected total loss and LAE	\$600,000
Projected exposures	2,000
Indicated rate per exposure	\$500

For Company B's rate filing, the following is assumed:

Projected total fixed costs	\$50,000
Projected total loss and LAE	\$600,000
Projected premium at current rates	\$900,000
Indicated rate change	16.5%

- The variable expense ratio is the same for each company.

a. (1.25 points)

Determine which company's filing includes the higher underwriting profit provision.

b. (0.5 point)

List two reasons the underwriting profit provision might differ between companies with the same loss, LAE and expense experience.

# EXAM 5 FALL 2016 SAMPLE ANSWERS AND EXAMINER'S REPORT

<b>QUESTION 7</b>	
<b>TOTAL POINT VALUE: 1.75</b>	<b>LEARNING OBJECTIVE: A4, A6</b>
<b>SAMPLE ANSWERS</b>	
<b>Part a: 1.25 points</b>	
<p>Company A: <math>500 = ((600+50)/2)/(1-V-Q_A)</math>    <math>0.65 = 1-V-Q_A</math>  Company B: <math>0.165 = ((600+50)/900)/(1-V-Q_B) - 1</math>    <math>0.62 = 1-V-Q_B</math>  Since the variable expense ratios are the same, <math>Q_B</math> is 3% higher than <math>Q_A</math></p>	
<b>Part b: 0.5 point</b>	
<p><u>Sample Answer 1</u>  If 1 company has longer-tail business and expects more investment income to make up for lower UW profit.  A company may choose a lower UW provision if they want to grow their business quickly.</p> <p><u>Sample Answer 2</u>  One company may be underwriting higher risk insureds and thus justify a higher UW profit provision.</p> <p><u>Sample Answer 3</u>  One company may be reducing provision to gain market share.</p> <p><u>Sample Answer 4</u>  Companies may have different regulatory requirements that restrict allowable profit provisions used.</p>	
<b>EXAMINER'S REPORT</b>	
<b>Part a</b>	
<p>Candidates were expected to setup the overall rate indication calculations for both companies and compare the profit provisions between the companies.</p> <p>Common mistakes included:</p> <ul style="list-style-type: none"> <li>• Calculating total projected profit rather than the profit provision</li> <li>• Mishandling fixed expenses in the formulas</li> <li>• Mishandling the indicated rate change for company B</li> </ul>	
<b>Part b</b>	
<p>Candidates were expected to identify reasons that would cause companies to target different profit provisions.</p> <p>Common mistakes included:</p> <ul style="list-style-type: none"> <li>• Identifying reasons that impact expected losses and expenses</li> <li>• Identifying reasons that impact the rate implemented rather than the target profit provision</li> </ul>	