14. (1.5 points)

Given the following data for an insurer that writes auto coverage in two states:

Underwriting Year	State A Earned Premium ($000s)	State B Earned Premium ($000s)
2012	2,000	154,000
2013	9,000	152,000
2014	20,000	147,000

	Reported CDFs as of (months)			
State	12	24	36	48
A	2.43	1.58	1.14	1.00
B	2.47	1.55	1.17	1.00

- State A policy limit is $50,000
- State B policy limit is $25,000

a. (1 point)

Discuss an argument for and an argument against combining State A and State B when performing an unpaid claims analysis.

b. (0.5 point)

Discuss the expected change in severity from 2012 to 2014 when combining the experience from State A and State B.

QUESTION 14	
TOTAL POINT VALUE: 1.5	**LEARNING OBJECTIVE: B1**
SAMPLE ANSWERS	

Part a: 1 point

Sample Answer 1

Since Reported CDFs for A and B are pretty close to each other and State A EP is significantly lower than that of B, combining A and B would produce a reliable estimate than separating the two states.

Sample Answer 2

You want a stable mix of business, here we see that policy A have a different policy limit and increases a lot year over year in volume. B is neutral or decreasing. Because of that the combined mix of business is not stable.

Sample Answer 3

State A and State B are growing at different rates. Since State A is growing rapidly, the average accident date of State A's recent AYs' loss is later than historical and later than State B. Combining them will lead to an inaccurate result.

Part b: 0.5 point

The severity would be increasing because State A is growing and State B is shrinking, and because State A has a higher policy limit than State B.

EXAMINER'S REPORT

Part a

Candidates were expected to offer robust arguments for and against combining the two states' data, demonstrating an understanding of credibility, homogeneity, or impacts of the shifting mix between states.

Candidates receiving less than full credit typically offered incomplete discussions. Examples of incomplete discussions include simply listing one reason for or against combining without elaboration.

Part b

This part required candidates to speak to the observed trend in the combined states' severity due to a mix shift toward higher limits.

Some candidates recognized that combined severity would be higher than state B severity due to the higher limits in state A, but did not speak to the growth in state A. Others simply stated that the combined severity would be higher than state B on its own and lower than state A on its own, which did not directly answer the question.