17. (2 points)

Actuary A and Actuary B are each performing a reserve analysis for a small insurance company. To enhance credibility:

- Actuary A relies only on internal data, aggregated across all lines of business.
- Actuary B supplements internal data with industry data separately by line of business.

Describe the benefits and deficiencies of each of these two strategies.

QUESTION 17	
TOTAL POINT VALUE: 2	**LEARNING OBJECTIVE: B1**
SAMPLE ANSWERS	

Sample Answer 1
Actuary A Benefits: Combining [all lines of business] will give credibility if the mix of claims and product characteristics are relatively similar along with similar loss distribution and development patterns.

Actuary A Deficiencies: Different lines of business can have drastically different rates of settlement, different claim severity and frequency, etc. Combining them will distort estimates. Also, most estimation methods do not perform well where the mix of business is changing.

Actuary B Benefits: The benefit for Actuary B is that the industry data separated by lines of business will keep the data homogeneous in the treatment of claims, keeping long-tailed lines and short-tailed lines separate.

Actuary B Deficiencies: The deficiency for Actuary B is that the underwriting and claim reserve strategy may not be the same for the company and the industry which could cause inaccurate reserves.

Sample Answer 2
Actuary A Benefits: Actuary A's method will have the benefit that it incorporates company-specific operations such as settlement rates and case reserving practices. If all lines of business have similar development patterns and payout rates, this will allow the actuary to produce more credible factors.

Actuary A Deficiencies: This is a small company so aggregating all lines might still not be stable enough to produce an accurate result, and it's unlikely that all lines will be appropriate for each individual line since typically development patterns and experience differs by line.

Actuary B Benefits: Separating by line allows reserves to be set by line so that development factors should not be affected by changes in mix of business. Incorporating outside data allows for credibility weighting so the results aren't too volatile since the book is likely small.

Actuary B Deficiencies: Don't know coverage level, underwriting guidelines, development patterns & mix of business of the industry data.

Sample Answer 3
Actuary A Benefits: This could be reasonable if the sample size is small within each LOB. It would take into account your book mix and you would not have to worry about adjusting industry data to match your book.

Actuary A Deficiencies: Lines are not homogenous, ie, mix long-tail with short-tail lines may be inappropriate.

Actuary B Benefits: Have a lot of volume since using industry data too which increases credibility. Analyzing lines separately helps improve homogeneity.

Actuary B Deficiencies: The data could be insufficient to give credible volume. Also, the external data may be much different than the companies and will need to be adjusted.

EXAMINER'S REPORT

Candidates were expected to understand the role of homogeneity and credibility of data in the process of estimating unpaid claims. The candidates were expected to provide both a benefit and deficiency of the approach that Actuary A and B utilized.

Common mistakes included:
- Providing vague responses that did not address the methodology used by Actuary A and B. For example, some candidates did not reference the use of external data in coming up with a reserve estimate.
- Responses that were unclear in whether the benefit or deficiency applied to Actuary A or B.
- Providing a list of desirable qualities for a complement of credibility rather than addressing homogeneity and credibility considerations of the reserve analysis strategy.