26. (2.25 points)

Given the following information:

Accident Year	Exposures	Ultimate Claims ($)
2012	10,000	1,000,000
2013	10,000	1,020,000
2014	10,000	1,040,000
2015	10,000	1,061,000

Calendar Year	Reported Claims ($)	Paid Claims ($)	Paid ULAE ($)
2012	995,000	990,000	100,000
2013	1,015,000	1,010,000	110,000
2014	1,035,000	1,030,000	121,000
2015	1,056,000	1,051,000	133,100

- Case outstanding as of December 31, 2015 = $180,000.
- IBNR as of December 31, 2015 = $50,000.

a. (0.75 point)

Using the classical paid-to-paid technique, estimate the unpaid ULAE as of December 31, 2015.

b. (1 point)

Fully discuss how a key assumption of the classical technique is being violated in part a. above.

c. (0.5 point)

Discuss whether or not the Kittel refinement will correct the issue identified in part b. above.

QUESTION 26	
TOTAL POINT VALUE: 2.25	**LEARNING OBJECTIVE: B7**
SAMPLE ANSWERS	

Part a: 0.75 point

Sample Answer 1

Calendar Year	Paid Claims	Paid ULAE	ULAE Ratio
2012	990,000	100,000	0.101
2013	1,010,000	110,000	0.109
2014	1,030,000	121,000	0.117
2015	1,051,000	133,100	0.127

Since ratio increases each year, pic, most recent ratio of 0.127

Unpd ULAE = 0.127*(50,000+180,000*.5)=17,780

Sample Answer 2

Calendar Year	Paid Claims	Paid ULAE	ULAE Ratio
2012	990,000	100,000	10.1%
2013	1,010,000	110,000	10.9%
2014	1,030,000	121,000	11.7%
2015	1,051,000	133,100	12.7%

Selected Paid ULAE to Paid Claims Ratio: (10.1%+10.9%+11.7%+12.7%)/4=11.4%

Unpaid ULAE = 11.4%*(180,000*.5+50,000)=15,960

Part b: 1 point

Sample Answer 1

Classical technique assumes ULAE inflation is the same as claims inflation

CY	Pd ULAE	Pd Claims
2012-2013	10%	2.02%
2013-2014	10%	1.98%
2014-2015	10%	2.04%

ULAE inflates at 10% per year, while claims inflate about 2% per year => pd to pd approach isn't appropriate

Sample Answer 2

The key assumption is that the insurer's ULAE-to-claim relationship has achieved a steady-state so that the ratio of paid ULAE-to-paid claims provides a reasonable approximation of the relationship of the ultimate ULAE-to-ultimate claims.

Accident Year	Exposures	Ultimate Claims	*Loss Costs*	Year-over-Year Chg
2012	10,000	1,000,000	100	
2013	10,000	1,020,000	102	2.0%
2014	10,000	1,040,000	104	2.0%
2015	10,000	1,061,000	106	2.0%

Calendar Year	Paid ULAE	Year-over-Year Chg
2012	100,000	
2013	110,000	10.0%
2014	121,000	10.0%
2015	133,100	10.0%

The trend in loss costs is different than the trend in claims handling costs (ULAE). Loss costs are trending at 2%, while claims handling costs are trending at 10%. This leads to a gradually changing paid-to-paid ratio.

Part c: 0.5 point

Sample Answer 1

Kittel Refinement will not correct the issue as it also assumes claims and ULAE inflate at same rate
Kittel refinement is intended to correct for increasing book size, which isn't evident since exposures are constant

Sample Answer 2
The Kittel refinement does not correct for the issue in part b.
The Kittel refinement cannot correct for changes in the rates of inflation between ULAE and claims.

EXAMINER'S REPORT

Part a

Candidates were expected to know how to calculate ULAE ratios by calendar year using the classical paid-to-paid technique and make a ULAE ratio selection. Candidates were then expected to use their selection to compute unpaid ULAE estimate using classical paid-to-paid technique. The candidates were expected to provide an unpaid ULAE estimate as of 12/31/2015 using the information provided and the above mentioned classical actuarial technique.

Common mistakes included:

• Some candidates just used the latest year or a weighted average ULAE ratio without calculating each year's ULAE ratio in order to select an appropriate ratio. • Not using paid claims to calculate ULAE ratio • Using case outstanding and IBNR other than that which was provided as of 12/31/2015, such as these values for year 2015 only

Part b

Candidates were expected to know the key assumption that is being violated. While there are two key assumptions for the classical technique, only one could be identified as the one that was violated based on the provided information in the question. Candidates were then expected to elaborate on why the assumption is being violated. To earn full credit, candidates were expected to identify the right key assumption, quote both loss cost (or paid losses, or ultimate losses) and ULAE trends.

Common mistakes included:
- Not identifying the key assumption being violated
- Not showing ULAE and loss cost trend and identifying that they are different

Part c

Candidates were expected to know the Kittel refinement and discuss if the refinement will correct the violated issue.

A common mistake was did not elaborating that the Kittel refinement actually does not eliminate the inconsistency in trends between the paid ULAE and paid losses/claims, and thus the paid ULAE-to-paid losses trend will still be present.