26. (2 points)

An actuary is conducting a reserve review for a line of business and calculates the following:

Accident Year	Claims as of December 31, 2012		Projected Ultimate Claims					
			Development Method		BF Method		Frequency-Severity	
	Reported	Paid	Reported	Paid	Reported	Paid	Claim Count and Severity Technique	Disposal Rate Technique
2009	$76,700	$75,800	$77,501	$77,483	$77,758	$78,022	$77,474	$77,817
2010	$104,000	$98,100	$113,782	$113,828	$113,374	$113,165	$112,669	$106,363
2011	$107,200	$55,100	$130,379	$94,770	$127,393	$102,646	$132,743	$107,447
2012	$58,100	$20,400	$120,014	$89,600	$121,397	$115,159	$123,383	$93,012

a. (1.5 points)

Suggest a reason for the disparity between the estimates of ultimate claims for accident year 2011 and propose diagnostic tests that would verify the assumption.

b. (0.5 point)

Determine what steps the actuary should take to determine the most appropriate methodology to project ultimate claims for accident year 2011.

END OF EXAMINATION

Exam 5 Question #26

a. Perhaps case outstanding adequacy was strengthened for AY 2011, with no change in payment pattern. Thus the DFM (reported) is applying too-high DFs to reported losses and coming up with too high estimate of ultimate. If severity in the F-S technique includes reported losses' severity, then this will similarly produce a high result.

   To verify produce triangles of average paid and average case OS. Look for a jump between 2010 and 2011 @24 months that is larger than the average increase in pd avg down the columns.

OR

   A slowdown in the settlement pattern could have caused the differences as it would have applied the historic CDF's to a lower paid amount at early maturities.
   -This could be tested by looking at the paid-to-reported claims ratios and the closed count-to reported count if these ratios decrease for a given maturity for new accident years, this would support the reason.

b. Discuss these questions with claims dept manager, and examine payment patterns to make sure they are consistent. If so, use a paid DFM or BF.

OR

   The actuary should confirm there was a change to the settlement pattern and check if there were changes to the case strength. If there were changes the data could be adjusted using the Berquist Sherman technique the actuary should talk to the claims department to get insight into the process.

b. Most candidates received high partial credit. Very few candidates selected an ultimate ratio for accident year 2012 that considered ultimate ratios from prior years.

c. Many candidates received full credit. Some of the common mistakes were not selecting a method by saying it does not matter and therefore not having a reason, or not giving a valid reason.

25.

a. Candidates generally did not score well on this part.

Many candidates received partial credit for:

- using the average of paid and incurred losses in the denominator of the ULAE ratio
- selecting a ULAE ratio that was appropriate given the ratios calculated by year
- calculating the ULAE provision

Most candidates failed to properly calculate incurred losses as the sum of paid losses, the change in case reserves, and the change in IBNR. Errors made in the incurred loss calculation included simply adding paid losses to the year-end reserve values or not including IBNR. Some candidates did not properly use the average of paid and incurred losses in the denominator of the ratio. Additionally, many candidates calculated a ULAE ratio based on the sum of all years (a weighted average) instead of calculating the ratio by year to identify potential trends. Some candidates determined a ULAE ratio but did not calculate the ULAE provision. Finally, of candidates that did calculate the ULAE provision, almost all candidates failed to properly calculate the ULAE provision. The most common errors in this final step of the calculation included applying the ratio to the sum of year-end case reserves and IBNR for all years, or applying the ratio to 50% of case reserves and 100% of IBNR, despite the question clearly identifying the policy as being claims-made.

b. Most candidates received either no credit or partial credit on this part. Many candidates failed to describe the purpose of the Kittel adjustment, and simply mentioned that the adjustment used the average of paid and reported losses in the denominator of the ratio. Candidates receiving partial credit failed to mention that the adjustment is intended to improve upon the classical method in the case of growing lines of business.

c. The majority of candidates who attempted this part provided an acceptable response.

26.

a. There were many potential causes to the discrepancy in the data – the most common responses were case reserve strengthening, claim payment slowdown, and the presence of an unpaid large loss. Credit was given to any explanation that made sense given the data.

In addition to stating a reason for the discrepancy between paid and reported methods, candidates received credit for explaining how the ultimates for some of the methods were

impacted instead of merely stating the result of reported method is overstated or paid method is understated.

A more complete answer would be giving case reserve strengthening as a reason and explaining how the same historical cdfs are applied to higher reported losses resulting in a possible overestimate

The question asked the candidate to propose "diagnostic tests" to verify the assumption. In order to receive full credit, candidates had to provide more than one test (some candidates only provided one test). In addition, some indication of how the diagnostic tests would be used to verify the assumption was required for full credit. Candidates did not receive full credit for simply listing tests without further explanation.

Other errors:

- Candidates assume a speed up in claim settlement when it should be a slowdown (candidates were able to receive points on the rest of the question with this answer).
- Merely stating there was a change in claim settlement

b. Some candidates listed diagnostic tests in part b but not in part a. For these candidates, credit was given in part a. for diagnostic tests listed in part b.

Many of the students gave only half the answer. They either explained what they would do to confirm their reason for the discrepancy without following-up with a solution or they would only give a solution. Full credit was awarded if the candidate indicated how their findings or confirmation steps will lead to a solution.