14. (5 points)

An insurance company implemented new claims procedures at the end of 2010 to expedite its claims resolution process. The actuary has been asked to review various claims metrics to determine if these new claims procedures resulted in the expected improvement in resolution speed. Given the following excerpts from Schedule P and additional historical claims-related information:

PART 5, Section 1				
Cumulative Number of Claims Closed with Loss Payment Direct and Assumed at Year-End				
Year	2010	2011	2012	2013	2014
2010	400	600	800	1,000	1,200
2011	XXX	500	700	1,000	1,400
2012	XXX	XXX	800	1,500	2,200
2013	XXX	XXX	XXX	1,100	2,000
2014	XXX	XXX	XXX	XXX	1,400

PART 5, Section 2				
Number of Claims Outstanding Direct and Assumed at Year-End				
Year	2010	2011	2012	2013	2014
2010	800	900	800	600	400
2011	XXX	1,100	1,100	900	600
2012	XXX	XXX	1,000	800	300
2013	XXX	XXX	XXX	1,600	700
2014	XXX	XXX	XXX	XXX	1,700

PART 5, Section 3				
Cumulative Number of Claims Reported Direct and Assumed at Year-End				
Year	2010	2011	2012	2013	2014
2010	1,400	1,800	2,000	2,100	2,100
2011	XXX	1,700	2,000	2,200	2,300
2012	XXX	XXX	2,000	2,600	2,800
2013	XXX	XXX	XXX	3,000	3,100
2014	XXX	XXX	XXX	XXX	3,400

PART 1 - Earned Premium		
Year	Direct and Assumed	Ceded
2010	5,000	1,000
2011	5,400	1,080
2012	6,100	1,220
2013	6,400	1,600
2014	6,600	1,650

Reported Claim Frequency Per $ of Direct and Assumed Earned Premium at Year-End				
Year	2010	2011	2012	2013	2014
2010	28.0%	36.0%	40.0%	42.0%	42.0%
2011	XXX	31.5%	37.0%	40.7%	42.6%
2012	XXX	XXX	32.8%	42.6%	45.9%
2013	XXX	XXX	XXX	46.9%	48.4%
2014	XXX	XXX	XXX	XXX	51.5%

Average Closed Claim Severities at Year-End				
Year	2010	2011	2012	2013	2014
2010	35.00	30.00	25.00	22.00	20.83
2011	XXX	34.00	34.29	28.00	22.14
2012	XXX	XXX	22.50	25.33	20.00
2013	XXX	XXX	XXX	19.09	22.00
2014	XXX	XXX	XXX	XXX	14.29

a. (1 point)

Briefly describe the trends in claim frequency and average closed claim severity, and identify one potential driver for each observed trend.

b. (2 points)

Construct the claims closure rate triangle, and briefly describe two observations.

<<QUESTION 14 CONTINUED ON NEXT PAGE>>

14. (continued)

    c. (0.5 point)

       Briefly describe two pieces of additional information that might be considered in forming a conclusive opinion regarding the effectiveness of the claims procedure changes.

    d. (1.5 points)

       One purpose of Schedule P is to facilitate the review of trends in claim frequency and severity. Briefly describe three other functions of Schedule P and, for each function, identify which Part(s) would provide the necessary information.

QUESTION 14	
TOTAL POINT VALUE: 5	**LEARNING OBJECTIVE: C1**
SAMPLE ANSWERS	

Part a: 1 point

Claim Frequency Trend:
- Generally increasing at common evaluation points

Frequency Trend Driver (any one of the following):
- Speed up of claim setup in the claim system
- Increase in nuisance claims
- Shorten of statute of limitation
- Deteriorating book of business
- Change in type of claims included
- New business strategy e.g. entering new territory
- Change in reinsurance structure e.g. change in QS %
- Change in policy limit written
- Rate deterioration due to lack of on-leveling of premium
- Change in claim count definition

Severity Trend:
- Generally decreasing at common evaluation points

Severity Trend Driver (any one of the following):
- Improved claims process identifies simpler, lower severity claims and closes them first / at earlier maturities
- Increase in S&S recovery
- Increase in reinsurance coverage
- More closed without payment claims
- Claims closed faster, drives down ALAE
- Change in claim count definition

Part b: 2 points

Calculation of closure rate triangle accepts the following formula as correct:

Claims Closure Rate				
=(Claims Reported-Claims Oustanding)/Claims Reported				
Year	@12	@24	@36	@48	@60
2010	=(1400-800)/1400=42.9%	50.00%	60.00%	71.40%	81.00%
2011	35.30%	45.00%	59.10%	73.90%	
2012	50.00%	69.20%	89.30%		
2013	46.70%	77.40%			
2014	50.00%				

Claims Closure Rate					
	=Claims Closed with Payment/Claims Reported				
Year	@12	@24	@36	@48	@60
2010	=(400)/1400=28.6%	33.00%	40.00%	47.60%	57.10%
2011	29.40%	35.00%	45.50%	60.90%	
2012	40.00%	57.70%	78.60%		
2013	36.70%	64.50%			
2014	41.20%				

Observations:
- Closure increase faster at later maturity
- Largest jump in % closed was in Yr2013 for all AYs
- Increase in closure rates at each evaluation
- Dip in closure rate in AY 2011
- Stability at age 12

Part c: 0.5 point

Additional info:
- Closed without payment claim counts
- Talk to management regarding changes undergone
- Talk to claim management about implementation of the change
- Claim re-opened ratio
- Change in average case reserves
- Changes in reinsurance structure or intercompany pooling arrangement
- Historical rate changes in premium
- Use non-premium exposure base to avoid distortion caused by rate change
- Whether definition of claim count changed
- Review data prior to 2010
- Ultimate loss ratio by year
- Change in claim count definition
- Changes in number of re-opened claims

Part d: 1.5 points

Functions of Schedule P:
- Evaluate reserve adequacy (part 2 and part 5)
- Supports and provides necessary disclosures for SAO (part 1)
- Reconciliation of data used in SAO (part 1)
- Premium trend (part 1)
- Shows split between known claims & IBNR claims (part 4 and 5)
- Necessary info to compute loss sensitive discount (part 7)
- Discount factor for IRS tax purposes (part 1)
- Payment discount factors (part 3)
- Development of Earned Premium (part 6)
- Calculate RBC R_4 and R_5 (part 1 and parts 2 & 3)
- Calculate IRIS ratios 11 & 12 (part 2)
- Calculate IRIS ratio 13 (part 2 & 6)
- Get competitor's paid loss development for entering new line (part 3)

• Overall profitability of line or in summary (part 1)
• Identify received and /or anticipated salvage and subrogation (part 1)
• Check for existence and size of non-tabular discount (part 1)
• Derive and review Case Reserve Triangle (part 2, 3 & 4)

EXAMINER'S REPORT

Parts a, b, and c required interpretation of data or situations, but many reasonable answers were possible for each part and candidates did not struggle to identify correct responses.

Part a

The candidate was expected to identify the trend in both the frequency and severity triangles. The candidate was also expected to explain the possible drivers for the observed trend. Common errors included:

- Commenting on small fluctuations from one number to the next and not describing general trend
- Drivers provided has no clear link with the observation stated
- Responses that would require Part 5 to be issued on a summary basis

Part b

The candidate was expected to know the formula for closure rate and compute the triangle correctly using the various claim counts triangle given. The candidate was also expected to state at least one observation based on the constructed closure rate triangle. Common errors included:

- Developing the claim count triangles into ultimate and used the ultimate as denominator when calculating closure rate
- Using incremental closed claim counts/outstanding claim counts=closure rate
- Calculating Claim closure rate=closed-with-payment/D&A premium

Part c

The candidate was expected to come up with at least one additional piece of information that is relevant to assessing change in claim closure rate. Common errors included:

- Failing to explain how the information is related to the situation described in the question
- Mentioning closed severity (which was already given in the question)
- Providing the same information stated in two different ways

Part d

The candidate was expected to come up with at least three functions of Schedule P. Common errors included:

- Listing either inaccurate or not specific parts
- Providing statements related to Schedule F