14. (3 points)

The following excerpts have been provided from an insurer's 2013 Schedule P (figures other than claims counts are in thousands of dollars):

Part 2D - Incurred Net Losses & DCC

	2009	2010	2011	2012	2013
2009	1,138	1,049	1,129	1,071	938
2010	XXX	1,138	1,110	899	748
2011	XXX	XXX	1,187	874	625
2012	XXX	XXX	XXX	1,112	958
2013	XXX	XXX	XXX	XXX	956

Part 5D Section 1 - Claims Closed with Loss Payment

	2009	2010	2011	2012	2013
2009	9	17	20	23	25
2010	XXX	9	14	18	19
2011	XXX	XXX	5	11	12
2012	XXX	XXX	XXX	3	7
2013	XXX	XXX	XXX	XXX	3

Part 5D Section 2 - Claims Outstanding

	2009	2010	2011	2012	2013
2009	13	9	5	6	2
2010	XXX	13	6	2	1
2011	XXX	XXX	7	2	-
2012	XXX	XXX	XXX	4	3
2013	XXX	XXX	XXX	XXX	3

Part 5D Section 3 - Claims Reported

	2009	2010	2011	2012	2013
2009	40	57	60	76	78
2010	XXX	37	44	47	49
2011	XXX	XXX	21	28	29
2012	XXX	XXX	XXX	14	21
2013	XXX	XXX	XXX	XXX	15

Part 6D, Section 1 - Premiums Earned (Direct & Assumed)

	2009	2010	2011	2012	2013
2009	2,104	2,695	2,731	2,727	2,728
2010	XXX	1,389	1,655	1,667	1,669
2011	XXX	XXX	1,889	1,952	1,947
2012	XXX	XXX	XXX	2,032	2,062
2013	XXX	XXX	XXX	XXX	1,788

a. (2.5 points)

Using at least two of the triangles shown above, perform a trend analysis, briefly describe its purpose, and briefly explain the result.

b. (0.5 point)

Briefly describe two limitations of Schedule P data that should be considered when performing the trend analysis in part a. above.

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QUESTION 14

TOTAL POINT VALUE: 3 | **LEARNING OBJECTIVE: C1**

SAMPLE ANSWERS (BY PART)

Part a: 2.5 points

Sample 1

All Claim Closure = All Closed Claims (Reported – Outstanding) / Reported Claims
= [Part 5D (Section 3) – Part 5D (Section 2)] / Part 5D (Section 3)

	2009	2010	2011	2012	2013
2009	67.5%*	84.2%	91.7%	92.1%	97.4%
2010		64.9%	86.4%	95.7%	98.0%
2011			66.7%	92.9%	100.0%
2012				71.4%	85.7%
2013					80.0%

* 67.5% = (40 – 13)/40

Purpose: To monitor the speed that claims are settled.

Result: As of 12 months of development, claims are settled more quickly.

Sample 2

Claims Outstanding = Outstanding Claims / Reported Claims
= Part 5D (Section 2) / Part 5D (Section 3)

	2009	2010	2011	2012	2013
2009	32.5%*	15.8%	8.3%	7.9%	2.6%
2010		35.1%	13.6%	4.3%	2.0%
2011			33.3%	7.1%	0.0%
2012				28.6%	14.3%
2013					20.0%

* 32.5% = 13 /40

Purpose: To identify any changes in claims settlement practices.

Result: The 12 month diagonal shows a decreasing percentage of claims outstanding, which indicates that claims are closing quicker.

Sample 3

Claim Closure Rate = Claims Closed with Payment / Reported Claims
= Part 5D (Section 1) / Part 5D (Section 3)

	2009	2010	2011	2012	2013
2009	22.5%*	29.8%	33.3%	30.3%	32.1%
2010		24.3%	31.8%	38.3%	38.8%
2011			23.8%	39.3%	41.4%
2012				21.4%	33.3%
2013					20.0%

* 22.5% = 9 / 40

Purpose: This analysis reveals changes in the rate at which claims are settled.

Result: It appears that claim settlement is slowing down at 12 months of development, but is increasing for 24, 36 and 48 months of development.

Sample 4

Claims Closed w/Pay = Closed with Payment Claims / Total Closed Claims
= Part 5D (Section 1) / [Part 5D (Section 3) – Part 5D (Section 2)]

	2009	2010	2011	2012	2013
2009	33.3%*	35.4%	36.4%	32.9%	32.9%
2010		37.5%	36.8%	40.0%	39.6%
2011			35.7%	42.3%	41.4%
2012				30.0%	38.9%
2013					25.0%

* 33.3% = 9 / (40 – 13)

Purpose: To see if there is a change in claims closed with pay compared to total closed claims, which could highlight a change in the claims settlement process.

Result: The trend shows that at 12 months of development, the closed with pay ratio is decreasing.

Sample 5

Claim Frequency = Reported Claim Counts / Earned Premium
= Part 5D (Section 3) / Part 6D (Section 1)

	2009	2010	2011	2012	2013
2009	1.90%*	2.12%	2.20%	2.79%	2.86%
2010		2.66%	2.66%	2.82%	2.94%
2011			1.11%	1.43%	1.49%
2012				0.69%	1.02%
2013					0.84%

* 1.90% = 40 / 2,104

Purpose: To identify changes in the rate claims are reported relative to earned premium, which is a proxy for exposure.

Result: Frequency appears to be decreasing as of 12, 24 and 36 months of development.

Sample 6

Claim Severity = Incurred Loss / Reported Claims
= Part 2D / Part 5D (Section 3)

	2009	2010	2011	2012	2013
2009	28.45*	18.40	18.82	14.09	12.03
2010		30.76	25.23	19.13	15.27
2011			56.52	31.21	21.55
2012				79.43	45.62
2013					63.73

* 28.45 = 1,138 / 40

Purpose: Average severity trend analysis shows how the average severity of reported claims has changed over time.

Sample Result 1: As of 12 months development, there has been an increase in the average severity from AY 2009 to AY 2012 followed by a decrease in AY 2013. For the other diagonals, there is a clear increase in the average severity.

Sample Result 2: Moving across each AY row, there is a decreasing trend in average severity. This could be an indication that the company is over-reserving when a claim is initially reported and then drops the reserve as time goes on.

Sample 7

Claim Severity x No Pay = Incurred Loss / (Claims closed with payment + claims outstanding)
= Part 2D / [Part 5D (Section 1) + Part 5D (Section 2)]

	2009	2010	2011	2012	2013
2009	51.73*	40.35	45.16	36.93	34.74
2010		51.73	55.50	44.95	37.40
2011			98.92	67.23	52.08
2012				158.86	95.80
2013					159.33

* 51.73 = 1,138 / (9 + 13)

Purpose: To see if the average incurred amount per claim (excluding closed with no pay) is changing over time.

Result: For each 12, 24 and 36 month development diagonal, the average severity has increased since AY 2010.

Sample 8

Incurred Loss Ratio = Incurred Loss / Earned Premium
= Part 2D / Part 6D (Section 1)

	2009	2010	2011	2012	2013
2009	54.1%*	38.9%	41.3%	39.3%	34.4%
2010		81.9%	67.1%	53.9%	44.8%
2011			62.8%	44.8%	32.1%
2012				54.7%	46.5%
2013					53.5%

* 54.1% = 1,138 / 2,104

Purpose: To show the change in loss ratios over time.

Sample Result 1: As of 12, 24 and 36 months of development, the loss ratio has decreased since AY 2010.

Sample Result 2: The analysis shows decreasing loss ratios for each AY as the months of development increase.

Part b: 0.5 point

The following provides examples of responses having the necessary components to demonstrate knowledge of the topic and obtain full credit; any two of the following received full credit:

- Claim counts are on a reported basis instead of ultimate.
- Frequency trends using earned premium can be misleading due to the effect of rate changes.
- Consideration should be made for changes over time in a company's mix of business, policy limits, reinsurance attachment points and limits.
- Schedule P data includes voluntary/involuntary pools as well as inter-company pooling arrangements.
- Schedule P is net of reinsurance.
- Schedule P combines loss and DCC together, which may hide a trend in each component.
- Schedule P only contains 10 years of data, which is insufficient to analyze a long tailed line of business.
- Schedule P can be distorted by commutations.
- The underlying cause for trends can only be obtained through discussion with company management.
- Some companies record claims on a per-claim basis and others on a per-claimant basis.
- Schedule P Parts 2-6 are not audited like Part 1.
- Schedule P Part 2D does not include AAO expenses.
- Schedule P is net of salvage & subrogation.
- If there is a catastrophe, the claims department may not be able to keep up with number of claims reported.
- Schedule P does not include retroactive reinsurance.
- Schedule P displays accident year losses, but calendar year/exposure year earned premium.
- Certain allocations and presentations are left up to the interpretation of the person completing Schedule P.

EXAMINER'S REPORT (BY PART, AS APPLICABLE)

- The candidate was expected to know Schedule P data/triangles, the limitations of the data, and how to perform a trend analysis using two of the triangles provided.

Part a

- The candidate was expected to be knowledgeable on the Schedule P triangles provided and use two of the triangles to perform a trend analysis. This includes stating the purpose and conclusion of the trend analysis.
- To obtain full credit, a candidate was expected to perform a reasonable trend analysis using at least two of the triangles provided. The calculations needed to be accurate and the purpose and result needed to be clearly stated.
- Common errors included forgetting to state the purpose of the trend analysis and small calculation errors in the analysis.
- We note that a common misinterpretation was that two separate trend analyses were required, and many candidates provided two trend analyses. However the question asks to "perform a trend analysis". In accordance with the Instructions to the exam, only the first response was graded.

Part b

- The candidate was expected to know limitations of Schedule P data when using the triangles for a trend analysis.
- To obtain full credit, a candidate was expected to provide two accurate limitations.

- Common errors included responses that were not accurate for Schedule P. As an example, some candidates said that Schedule P data was not broken out by line of business, which is not a true statement.
- Some candidates provided a limitation of their analysis or the data provided in the question, instead of a limitation of the underlying Schedule P data. As an example, some candidates who calculated average severity using the incurred loss & DCC and reported claims triangles stated that you cannot see if the average paid is changing. Schedule P includes a paid triangle, which could have been used for an average paid analysis, if the question had included a paid triangle. This response did not receive credit.