18. (4.25 points)

A personal lines insurance company entered into a commutation with a reinsurer that covered all claims occurring in 2012 for a price of $2,000 effective December 31, 2014. The information below is from the preliminary financial statements for year-end 2014, prior to the commutation:

- One-Year Loss Reserve Development: $10,750
- Prior Year Policyholders' Surplus: $55,500
- Current Year Policyholders' Surplus: $50,000
- Current Year Net Premiums: $12,500
- The following payments and reserves for accident year 2012:

		at 12 Months	at 24 Months	at 36 Months
Paid Losses	Gross	$6,000	$9,000	$10,500
	Ceded	$1,500	$2,250	$2,625
	Net	$4,500	$6,750	$7,875
Reserves (case + IBNR)	Gross	$2,500	$3,750	$4,375
	Ceded	$2,000	$3,000	$3,500
	Net	$500	$750	$875
Ultimate Loss	Gross	$8,500	$12,750	$14,875
	Ceded	$3,500	$5,250	$6,125
	Net	$5,000	$7,500	$8,750

a. (0.75 point)

Restate the accident year 2012 ceded paid loss, ceded loss reserve, and ceded ultimate loss after the commutation.

b. (3 points)

Calculate IRIS ratios 2, 7, and 11 after the commutation.

c. (0.5 point)

Based on the results in part b. above, briefly describe how the examination of two of the remaining IRIS ratios may help the regulator better understand the financial health of the insurance company.

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QUESTION 18	
TOTAL POINT VALUE: 4.25	**LEARNING OBJECTIVE: C2 / E1**
SAMPLE ANSWERS	
Part a: 0.75 point	
Ceded Paid Loss= 2,625 + 2,000 = 4,625 Ceded Reserves = 0 Ceded Ultimate Loss = Ceded Paid Loss + Ceded Reserves = 4,625 + 0 = 4,625	
Part b: 3 points	
IRIS Ratio 2 IRIS Ratio 2 = NWP/Surplus Numerator: NWP =12,500 Denominator: Adjust the Policy Holder Surplus (PHS) to account for the commutation Adjusted PHS = Current Year PHS as given + Commutation Price Paid – Ceded Reserves Commuted: 50,000 + 2,000 - 3,500 = 48,500 or Adjusted PHS = Current Year PHS as given + Change in Ultimate Ceded Loss: 50,000 + 4,625 – 6,125 = 48,500 Calculate the ratio NWP/ Adjusted PHS = 12,500 / 48,500 = 25.77% OR IRIS Ratio 2 = NWP/Surplus Numerator: NWP =12,500 Denominator: Adjust the Policy Holder Surplus (PHS) to account for the commutation and state tax rate and reserve discounting assumptions (example 35% rate, and no discounting) Adjusted PHS = Current Year PHS as given + Commutation Price Paid – Ceded Reserves Commuted: 50,000 + (2,000 - 3,500) * (1 - 35%) = 49,025 or Calculate the ratio NWP/ Adjusted PHS = 12,500 / 49,025 = 25.5% **IRIS Ratio 7** IRIS Ratio 7 = Change in PHS / Prior PHS Find the difference between the current adjusted PHS and the prior PHS and place in the numerator Adjusted PHS calculated above in Ratio 2 Change in PHS = Current Year Adjusted PHS – Prior Year PHS 48,500 - 55,500 = -7,000 Denominator: Prior year's PHS = 55,500 (given in the problem, does not require adjustment) Calculate the ratio Change in PHS/ Prior PHS = -7,000 / 55,500 = -12.6% OR IRIS Ratio 7 = Change in PHS / Prior PHS Find the difference between the current adjusted PHS and the prior PHS and place in the numerator Adjusted PHS calculated above in Ratio 2, tax effected	

Change in PHS = Current Year Adjusted PHS – Prior Year PHS 49,025 - 55,500 = -6,475
Denominator: Prior year's PHS = 55,500 (given in the problem, does not require adjustment)
Calculate the ratio Change in PHS/ Prior PHS = -7,000 / 55,500 = -11.67%

IRIS Ratio 11

IRIS Ratio 11 = 1 yr. Loss Development/ Prior PHS
Calculate the adjusted 1 yr. Loss Development as a result of the commutation
1 yr. Loss Development = 10,750 - 2,000 + 3,500 = 12,250 or
1 yr. Loss Development = 10,750 + 6,125 – 4,625 = 12,250
Denominator: Prior Year PHS = 55,500 (given in the problem, does not require adjustment)
Calculate the ratio 1 yr. Loss Development/ Prior PHS = 12,250 / 55,500 = -22.07%

Part c: 0.5 point

IRIS Ratio 5: Two-Year Overall Operating Ratio
Will help regulators assess the operating profitability of the company, if the combined ratio is below 100% other unusual values are less of a concern

IRIS Ratio 12: Two-Year Reserve Development to PHS
Will help regulators determine if there is a history of adverse development.

IRIS Ratio 13: Estimated Current Reserve Deficiency to PHS
Will help the regulator determine if the reserves are adequate.

IRIS Ratio 1 : Gross Premium Written to PHS
Based on the very low value of Ratio 2, regulator should check the GWP to Surplus, to assess the company's reliance on reinsurance and determine if they are too highly leveraged

IRIS Ratio 3 : Change in NWP
Due to the shrinking surplus in Ratio 7, the regulators may want to investigate whether the company is growing or shrinking based on the change in NWP, because they may not have be able to support the growth

IRIS Ratio 4: Surplus Aid to PHS
Given that the Ratio 7 is below the usual range, regulators should calculate the Surplus Aid to PHS to determine if the company is relying too heavily on reinsurance and assess whether they need to remove the aid from the other ratios calculated

IRIS Ratio 6: Investment Yield
Regulators may want to determine if the company is obtaining an investment yield that is able to compensate for the adverse development observed and additional net reserves taken on.

IRIS Ratio 8: Change in Adjusted PHS
Due to the unusual value for Ratio 7, regulator may want to review the change in surplus that can be attributed to operations only

SAMPLE ANSWERS AND EXAMINER'S REPORT

IRIS Ratio 9: Adjusted Liabilities to Liquid Assets
Regulator may want to review if the insurer has enough assets to cover their liabilities given that the reserves have been developing adversely

EXAMINER'S REPORT

The candidate was expected to know how to adjust ceded loss amounts and policy holder surplus for a reinsurance commutation, as well as how to calculate and apply IRIS ratios.

Part a

The candidate was expected to know that after the commutation:

- the ceded paid loss should be increased by the price paid for the commutation
- the ceded loss reserve is set to zero
- the ceded ultimate loss = ceded paid + ceded reserve

Most candidates understood that the ceded reserves should be set to zero. However, most candidates did not get the ceded paid loss and ceded ultimate loss calculations correct.

Part b

In order to properly answer part b, candidates were expected to know the following:

- IRIS Ratios, 2, 7, and 11
- How to adjust the current year surplus for the impact of the commutation
- How to adjust the one year loss development for the commutation

Common errors included:

- Adding the price of the commutation to the Net Written Premium in ratio 2
- Not adjusting the current PHS for the impact of the commutation at all or correctly in ratios 2 and 7
- Subtracting the Current PHS from the Prior PHS in ratio 7, thus reversing the sign and interpretation of the result
- Dividing by the current year PHS instead of prior years PHS in Ratios 7 and 11
- Trying to adjust the Prior Year PHS for the impact of the commutation in ratios 7 and 11
- Not adjusting the 1 yr. Loss Reserve Development for the impact of the commutation in ratio 11
- Not knowing the formula for IRIS Ratio 7

Part c

The most common error was not basing the answer to this part on the results of part b. (i.e., the candidate just listed and/or described 2 IRIS ratios but did not tie them back to part b).