18. (3.5 points)

Given the following information as of December 31, 2017, for an insurance company that only writes Workers' Compensation policies (all dollar figures are in millions):

Total adjusted capital	\$200
Policyholders' surplus	\$250
R0	\$30
R1	\$60
R2	\$50
R3	\$70
R4	\$150
RBC charge factor for R5	19%
IRIS ratio 1	1100%
IRIS ratio 2	250%

The company does not have any loss sensitive contracts.

a. (1.75 points)

Calculate the 2017 RBC ratio for this company.

b. (0.75 point)

Based on part a. above, identify the RBC action level for this company, and briefly describe the required actions of both the regulator and the company under the RBC Model Act.

c. (1 point)

Based on IRIS ratios 1 and 2 for this company, fully describe one reason why a regulator may be concerned about the financial health of this company.

CONTINUED ON NEXT PAGE

• Observing a fact from the information given but declining to explain why that issue represents Reserve Risk. • Interpreting the decrease in Reserves as evidence that the company was over-reserved or adequately reserved (note that reserves <u>should</u> decrease over time as claims are paid, what matters is whether the ultimate is stable).

FALL 2018 EXAM 6US, QUESTION 18	
TOTAL POINT VALUE: 3.5	**LEARNING OBJECTIVE:** C2
SAMPLE ANSWERS	
Part a: 1.75 points	
Sample 1 RBC Ratio = Total Adjusted Capital / ACL ACL = RBC * 0.5 RBC = $R_0 + (R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2)^{½}$ R_5 = 0.19 * Net Written Premium Iris Ratio 2 = NWP / PHS 2.5 = NWP / 250 NWP = 625 R_5 = 0.19*625 = 118.75 RBC = $30 + (60^2 + 50^2 + 70^2 + 150^2 + 118.75^2)^{½}$ = 248.18 ACL = 0.5 * 248.18 = 124.08 RBC Ratio = 200 / 124.08 = 161.2%	
Part b: 0.75 point	
Company Action Level Regulator Action – no action at this time Company Action – submit plan to commissioner on how company will raise capital or reduce risk	
Part c: 1 point	
Iris Ratio 1 > 900% which is in the unusual range. Iris Ratio 2 < 300% which is in the normal range. This means the company is over-reliant on reinsurance. The regulator may be concerned about reinsurance collectability/credit risk.	
EXAMINER'S REPORT	
Candidates are expected to know the RBC and Iris Ratio formulas and RBC action levels.	
Part a	
Candidates were expected to know the RBC and Iris ratio formulas. Candidates were expected to know that R_5 uses Net Written Premium and that the Total Adjusted Capital is used to calculate the RBC Ratio.	

Common errors include: • Using something other than Net Written Premium to calculate R_5 • Using Policyholder's Surplus to calculate the RBC ratio • Omitting the 50% in the RBC ratio (using the RBC and not the ACL).
Part b
Candidates were expected to know the action levels that correspond to the appropriate RBC ratio from part a and the actions associated with this level for both the company and the regulator. Common errors include: • identifying the wrong action level • Misstating the name of the action level • Omitting any comments on the actions required by the regulator
Part c
Candidates were expected to know the usual range of both Iris Ratios 1 & 2 and know why a regulator would be concerned with these specific values, one of which is unusual. Common errors include: • Identifying over-reliance on reinsurance without commenting on the usual values of Iris ratios or not commenting on why a regulator would be concerned with over reliance on reinsurance (i.e. collectability). • Identifying concerns that correspond to other Iris ratios (e.g. rapid growth, surplus aid, reserve risk).

FALL 2018 EXAM 6US, QUESTION 19	
TOTAL POINT VALUE: 3.5	**LEARNING OBJECTIVE: C3**
SAMPLE ANSWERS	
Part a: 0.5 point	
GAAP • Investors • Creditors • Company • Board of directors • Investors in the company • Company management • Company's Management Team • Investor from other industry • Financial analysts (wall street) • Stakeholders • Stakeholders in the company • Shareholders • Firms looking to invest in publicly traded companies	