18. (1.5 points)

a. (0.5 point)

Briefly describe one advantage and one disadvantage of using RBC ratios to assess the financial health of an insurer.

b. (0.5 point)

Describe the reason why the R0 charge is treated differently from the other charges in the RBC formula.

c. (0.5 point)

Briefly describe one similarity and one difference between the RBC framework and the IRIS framework.

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Part a
Candidates were expected to calculate the RBC ratio and show how they derived it from the total RBC after covariance. Common mistakes include: • Forgetting to multiply the total RBC after covariance by 0.5 • Multiplying the total RBC after covariance by 2 and not 0.5 • Flipping the formula where the RBC ratio is ACL / Total Adjusted capital and not the correct way of Total Adjusted capital / ACL • Not showing the R0 charge in the calculation of the total RBC after covariance
Part b
Candidates were expected to determine the RBC action level by recognizing the need to perform the trend test. Based on that action level, candidates were expected to describe the actions required by the company and the regulator. Common mistakes include: • Not recognizing the need to perform the trend test • Not including dividend ratio as part of the calculation of the combined ratio • Not calculating the combined ratio • Not identifying the RBC action level • Not describing the actions required by either the company or the regulator • Using the wrong percentage threshold for failing the trend test

QUESTION 18	
TOTAL POINT VALUE: 1.5	**LEARNING OBJECTIVE: C2**
SAMPLE ANSWERS	
Part a: 0.5 point	
Sample answers for advantage of RBC ratio to assess the financial health of an insurer include: • Formulaic and easy to understand • RBC ratio is based on the financial statement, it is verifiable and hard to manipulate • Formulaic, hard to manipulate, easy to compare across companies • Rules based system is easy and objective for regulators to use consistently across insurers Sample answers for disadvantage of RBC ratio to assess financial health of an insurer include: • Doesn’t capture all important risks, such as operational or catastrophe risk. • RBC is formulaic, so it may not fit the situation of all companies • Industry values are considered throughout much of the calculations rather than the insurers’.	

- RBC ratios only include quantitative information and ignore other risks like operational risk or cat risk.

Part b: 0.5 point

- R0 is assumed to correlate directly with the insurers risk because it covers affiliate risk whereas the other components assume independence so a covariance adjustment must be made.
- All other risks besides R0 are thought to be independent but R0: subsidiary insurers are thought to be correlated.
- R0 is the charge for subsidiaries. We would not want the RBC charge to depend on the ownership relationship within an insurance group, so the R0 sits outside the square root.
- Subsidiary risk is not thought to be independent of the risk of the holding company, so it receives no diversification benefit.
- R0 is for the RBC of affiliates. This value usually already has the covariance adjustment done when the affiliate calculates its RBC and passes it on to the holding company. As such, no reason to do covariance adjustment again.
- R0 represents RBC charges from affiliates and is assumed to be correlated with all other risk categories. RBC should not depend on company structure.

Part c: 0.5 point

One Similarity between RBC framework and IRIS framework

- Both frameworks are used as an early warning against insurers that may become insolvent
- Both frameworks are quantitative metrics
- Both lay out numeric thresholds for regulators to follow as guidelines for financial trouble warnings.
- Both are quantitative risk measures using Annual Statement data
- Both RBC and IRIS penalize an insurer for excessive growth
- One similarity is that both frameworks attempt to measure the financial solidity of an insurer.

One Difference between RBC framework and IRIS framework

- RBC is used to calculate a minimum amount of capital that an insurer should carry, and IRIS ratios do not
- RBC framework has authority to regulate/intervene businesses by its RBC model act. While IRS framework does not have the regulatory authority.
- RBC penalizes an insurer for low grade bonds; IRIS does not.
- One difference is that the RBC does not consider the adequacy of reserves while the IRIS structure does focus on that risk.
- RBC model act authorizes that regulator can take specific action if RBC ratio falls below a certain point. If IRIS ratio is unusual, further financial analysis is needed, cannot make conclusion solely based on IRIS ratio.

- RBC is more focused on risks that affect it's solvency by estimating the required capital, while IRIS looked at the financial strength of insurer including different aspects like reserve adequacy, profitability, collectability, etc.
- RBC is used to calculate a minimum amount of capital that an insurer

EXAMINER'S REPORT

The candidates were expected to demonstrate knowledge of the purpose, components, similarities and differences of RBC vs. IRIS ratios.

Part a

The candidates were expected to name an advantage and disadvantage of the RBC ratio to assess the financial health of an insurer.

A common error was to provide a response that was related to an IRIS ratio instead of RBC, such as stating that the "usual values were based experience of insurers that became insolvent".

Part b

The candidates were expected to understand the components of the RBC calculation and why the R0 component is treated differently than the other charges (R1-R5) of the RBC formula.

Common errors include:

- Stating that that R0 is completely independent of other risk charges and thus not subject to the covariance adjustment
- Stating that the risks within the square root are correlated

Part c

The candidates were expected to compare and contrast RBC and IRIS frameworks by giving one similarity and one difference.

Common errors include:

- Confusing IRIS with Solvency II and talking about minimum capital requirements under IRIS framework
- Talking about action levels for IRIS (Confusing IRIS with IFRS)
- Similarity that both measure reserve adequacy (only IRIS does this)

QUESTION 19	
TOTAL POINT VALUE: 2.5	**LEARNING OBJECTIVE: C3**
SAMPLE ANSWERS	
Part a: 1.5 points	