

23. (3.75 points)

a. (2.25 points)

Identify and describe the three pillars of Solvency II.

b. (0.5 point)

Describe the solvency capital requirement under Solvency II.

c. (1 point)

Fully explain the own risk self-assessment (ORSA) under Solvency II.

- accounting standard allows and/or requires an explicit risk margin (which is the point of the question).
- Responding that SAP/GAAP “do not require” risk margins (as opposed to “do not allow” risk margins, which is the correct response) and/or that IFRS “allows” risk margins (as opposed to “requires” risk margins, which is the correct response).
  - Incorrectly specifying the IFRS requirement (e.g., stating that IFRS requires the use of the VaR metric).

## 23. Sample Answers

a.

### Sample 1:

**Quantitative Requirements:** Each company must calculate their required capital for the SCR requirement. (Capital to reduce firm failure to 0.5%). They can use an internal model, the defined formula, or a combination of the two.

**Supervisory Review:** This step allows the supervisors to review the risks to ensure they hold enough capital. They also review compliance with internal audit requirements, actuarial function requirements, that they are effectively using risk management, and compliance with Solvency II as a whole. Supervisors have the ability to intervene when they think necessary.

**Supervisory Reporting:** This pillar focuses on transparency. The results of the review are available to the public so they can ensure appropriate, timely actions are taken by the supervisors.

### Sample 2:

**Quantitative Requirements:** Includes calc of reserves, required capital, and investment management

2 separate capital requirements, MCR and SCR (see part b)

Internal models encouraged to determine capital requirement – better alignment of risk with required capital and stronger incentive for risk management – models require regulator approval

Focuses on asset and liability risk – market consistent valuations

**Supervisory Review:**

Identifying firms with high risk profiles

Make sure regulators have authority to intervene

Evaluating the quality of management, corporate governance, internal controls, etc.

Functions for insurer include internal audit, risk management, actuarial, and compliance

Also requires the development of ORSA

**Supervisory Reporting & Public Disclosure:**

Making sure info is available for market discipline

### Sample 3:

**Pillar I – Quantitative Requirement – Capital needed, SCR & MCR.** Either standard formula or models calculate this

**Pillar II – SRP Qualitative Requirements – Supervisory review process.** Extent to which companies’ strategies, reporting procedures, and processes are compliant with Solvency II

**Pillar III – Disclosure – How transparent the company is with the public.**

b.

Sample 1:

MCR – minimum required; can't operate below

\* SCR: based on a 99.5% VaR, which can be determined using standard formula or internal model – amount of capital required to remain solvent at 99.5% percentile of aggregate loss distribution

Sample 2:

It is the economic capital needed to limit the probability of ruin to 0.5%. Falling below this level may lead to supervisory action.

c.

Sample 1:

ORSA is an internal assessment of the firm's risk and solvency need. It should review capital requirements, make sure it satisfies the requirements of the technical provision, and review large differences to the SCR. It can be used as a tool for decision making and allows the supervisors a better understanding of the firm's risks. It's a comprehensive review of all the company's investments, practices, risks.

Sample 2:

ORSA Processes used to identify, assess, manage, monitor, and report all risk insurance company faces or may face, and determine own funds needed to ensure solvency at all times. 2 objectives = assist insurer decision-making and help regulators better understand risk profile of company.

Should include minimum of:

Overall solvency needs

Compliance with capital requirement

Extent to which risk profile deviates from assumptions underlying SCR

Sample 3:

An internal assessment of the overall solvency need based on a firm's risk profile. It can be a tool for decision making, and a tool for supervisors to better understand a firm's risks.

At a minimum it should contain:

The overall solvency need based on the specific risk profile

Compliance with solvency capital requirements and the requirements of the technical provision

The extent to which the risk profile deviates from the underlying assumptions in the SCR

## 23. Examiner's Report

All parts of this question were straightforward.

- a. Most common error was not describing the qualitative aspect Pillar II. Many candidates' responses were similar to their Pillar I answers about the solvency requirement calculations.
- b. Most common error was giving only a limited description of SCR. Generally, these candidates only provided the VaR component and didn't include the option to use standard or internal models or discuss the regulatory action levels.
- c. Most common error was giving too limited of a description of ORSA. Many candidates that knew the definition of ORSA only included the risk identification and monitoring component but

didn't include the link to solvency assessment or any of the uses or objectives of ORSA or the minimum requirements of an ORSA.

#### 24. Sample Answers

##### Materiality Standard:

A \$5m drop in surplus (=\$35m) will make the company fall into the Company Action Level (= \$30m)

OR

5% of surplus (1.75M)

OR

10% of surplus (3.5M)

OR

25% of surplus (7M)

##### Risk of Material Adverse Deviation:

The actuary's range of reasonable reserves is 47-63. The current booked reserve is 55. Since  $55+5 = 60$  is still within the actuary's range of reasonable reserves, there is a risk of material adverse deviation.

OR

Based on this standard, there exists a risk of material adverse deviation. Risks include Asbestos and environmental exposures.

##### IRIS Ratios:

IRIS 11:  $6/29 = .207$ , which is greater than the 20% threshold. This is an unusual value

IRIS 12:  $5/28 = .179$ , which is less than the 20% threshold. This value is in the usual range.

IRIS 13: Average of  $(49+6)/85$  and  $(50+5)/80$  equals 0.66725.

$$0.66725 * 90 = 60.05$$

$$60.05 - 55 = 5.05$$

$5.05/35 = .144$  This is less than the 25% threshold. This value is in the usual range.

##### Reinsurance collectability:

Reinsurance collectability may be an issue. The company is ceding a significant portion of its total reserves.

#### 24. Examiner's Report

This is a very open-ended question where candidates needed to evaluate the information provided in the table, discuss the conclusions that could be drawn, and provide the required disclosures for the SAO.

##### Materiality Standard:

Most candidates correctly selected a reasonable materiality standard. A few candidates lost some credit by suggesting a high standard of \$20M.

##### Risk of Material Adverse Deviation:

Most candidates answered correctly. Some candidates failed to receive full credit by stating that there was risk without any explanation.

##### IRIS Ratios: