



Subject: AP2

Chapter: Unit 4

Category: Practice question

Q1. CP1 – April 2023 – Paper 1 – Q1

Country A has a regulatory capital framework that is very similar to Solvency II in the European Union. The standard formula regulatory capital model shows the following capital positions for an insurance company in Country A:

	At end of year 1 (\$billion)	At end of year 2 (\$billion)
Minimum Capital Requirement (MCR)	2	3
Solvency Capital Requirement (SCR)	4	5
'Free Capital' over and above the total liabilities and SCR	1.5	0.3

- (i) Suggest possible reasons why the MCR and SCR requirements may have increased over the year. [2]
- (ii) Explain possible reasons why the regulator may be concerned with a reduction in the free capital over the year. [3]

An adviser has indicated that it could help the insurance company build an internal model that would increase the insurance company's free capital by £0.3 billion.

- (iii) Discuss the considerations that the insurance company will need to take into account before using the proposed internal model. [4]
- (iv) Outline the due diligence that the insurance company should carry out on the adviser. [3]

[Total 12]

Q2. CP1 – September 2022 – Paper 1 – Q8

- (i) Explain how the principles of pooling risk are applied in the business of motor insurance. [4]

A company selling motor insurance has recently moved into insuring very high-value cars. They have noticed that this book of business has been less profitable than their standard business.

- (ii) Suggest reasons why this book of business may be less profitable. [2]
- (iii) Outline how the company may make changes to increase the profitability of this book of business. [3]

[Total 9]

Q3. CP1 – September 2022 – Paper 1 – Q12

A regulator is reviewing a life insurance company's financial resilience using stress and scenario testing that considers a 5-year time horizon.

- (i) Explain why the regulator has chosen a 5-year time horizon. [3]
- (ii) Suggest, with reasons, the risks that could be included. [3]
- (iii) Suggest the financial measures that could be included in the review. [3]

The regulator has proposed an approach with four distinct time stages.

Stage 1	Stage 2	Stage 3	Stage 4
Balance sheet and capital requirements calculated immediately following stresses to:	Balance sheet and capital requirements calculated immediately following stresses to:	Same stresses as Stage 2. Balance sheet and capital requirements	Same stresses as Stage 2 plus stress to longevity and lapse assumptions.

interest rates. credit spreads (no credit rating downgrades). equity prices.	interest rates. credit spreads. credit rating downgrades. equity prices. property prices.	calculated after changing the asset mix.	Balance sheet and capital requirements calculated after changing the asset mix.
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- (iv) Assess the regulator's proposal for testing the company's financial resilience including its reasoning for including each stage. [5]

[Total 14]

Q4. CP1 – April 2022 – Paper 1 – Q3

- (i) Outline possible reasons why each of the following may need to accumulate capital:

- An individual
- An engineering company
- A proprietary insurance company
- A government. [4]

A mutual insurance company wishes to expand its business, but has limited access to capital markets. The company is therefore proposing to convert itself to a proprietary company.

- (ii) 4 Discuss the advantages and disadvantages of the proposal. [4]

[Total 8]

Q5. CP1 – April 2022 – Paper 1 – Q4

The managers of a large defined benefit pension scheme, which now consists solely of members with pensions in payment, have appointed an actuary to monitor the scheme's mortality experience.

- Outline reasons why the scheme's mortality experience should be monitored. [4]
- Describe the data the actuary would require to undertake the monitoring. [5]

[Total 9]

Q6. CP1 – April 2022 – Paper 2 – Q1

Background

TT Insurance is an insurance company, owned and established by four individuals, and based solely in Country A. TT Insurance specialises in travel insurance and sells no other types of insurance. TT Insurance heavily markets its products via social media. TT Insurance currently only sells a simple travel insurance product. TT Insurance's marketing strategy focuses on the simple product and it aims to make it as easy as possible for customers to buy this product. TT's travel insurance product only provides the following cover:

- medical expenses if the policyholder becomes ill when abroad
- repatriation expenses for medical reasons.

TT's travel insurance is only available to customers aged under 65, with no pre-existing medical conditions.

The government of Country A is planning to introduce legislation making it illegal to ask potential customers for information relating to pre-existing medical conditions when applying for insurance products. Certain strictly defined forms of insurance will be exempt but travel insurance is not expected to be among them.

There are no regulations or legislation relating to Environmental, Social and Governance (ESG) considerations in Country A. However, investors in Country A generally expect well-run companies to have high ESG standards and practices in place. The government of Country A is considering

introducing regulation to make ESG reporting a requirement for all companies, with the possibility of stronger requirements in future if considered necessary.

Questions

- (i) Discuss why TT may have decided to only offer this single product. [10]
- (ii) Discuss how the change in legislation limiting the questions that may be asked will affect TT's business. [8]
- (iii) Suggest the data issues that may arise for TT as a result of this change in legislation. [6]
- (iv) Describe two low-likelihood high-impact risks for TT's travel insurance. [4]
- (v) Discuss how the risks outlined in part (iv) could be managed or mitigated. [5]
- (vi) Describe how ESG considerations could impact insurance companies. [7]
- (vii) Suggest how any changes to ESG regulation could impact TT's business. [5]
- (viii) Suggest how TT could raise additional capital if needed. [5] [Total 50]

Q7. CP1 – September 2021 – Paper 1 – Q10

A general insurance company only sells household contents insurance. The company is now considering launching a new contents insurance product aimed at individuals living in retirement homes.

- (i) Outline the costs that the insurance company would incur as a result of the launch. [3]
- (ii) Discuss how the sales volume of this new product will impact the company's regulatory capital requirements. [3]

One year after the launch of the new product, the number of claims has been significantly in excess of that expected. An independent analysis has identified the following possible causes in respect of the new product:

The insurance company has written larger volumes of business in certain areas of the country than had been expected.

To save costs, the insurance company outsourced the claims process to an independent firm with experience in the target market.

- (iii) Discuss how the insurance company could adapt the underwriting and claims processes in order to improve future claims experience. [6]

[Total 12]

Q8. CP1 – April 2021 – Paper 1 – Q6

A global insurance group has 20 different business units around the world, split as follows:

ten life insurance companies selling term assurance and annuity products

ten general insurance companies specialising in unique risks (e.g. insuring the President of the United States of America's air travel).

- (i) Discuss how enterprise risk management could be used to decide how capital could be distributed between the group's business units. [5]

One of the general insurance companies (Company X) in the group has been invited to quote for insuring the risk that the next four Olympic Games, which happen every 4 years, are delayed or cancelled.

- (ii) Outline how Company X would prioritise this opportunity relative to the other business units' business plans. [5]

[Total 10]

Q9. CP1 – April 2021 – Paper 1 – Q9

A football club has a defined benefit pension scheme for its employees. It has three different categories of employee who work for the club.

Players – generally paid between £500,000 and £1,000,000 p.a. At this particular club, they are very loyal and play for the club between the ages of 18 and 35, at which point they retire.

One manager – the club has employed five managers over the last 60 years; the current manager is paid £250,000 p.a.

Staff – the remaining 100 staff members have worked for the club for an average of 30 years, with an average salary of £40,000 p.a.

- (i) Outline the possible issues the football club would have considered in designing the benefits for each category of employee. [7]
- (ii) Explain why different mortality assumptions may need to be used for each category of employee. [5]
- (iii) Discuss how the scheme's managers could control the different expenses associated with running the pension scheme. [5]
- (iv) Suggest, with reasons, an appropriate investment strategy for the scheme. [7]
- (v) Explain the importance of monitoring the scheme's experience against the scheme's funding assumptions. [3]

[Total 27]

Q10. CP1 – September 2020 – Paper 1 – Q7

The insurance regulator in a country has noticed a significant deterioration in the capital strength of one of the insurance companies it supervises. The regulator has suggested that the insurance company works with a large bank to strengthen its financial position.

- (i) Describe the types of capital management solutions that the bank could offer the insurance company to achieve the regulator's objective. [3]
- (ii) Describe how effective each solution might be in satisfying the regulator that the insurance company's capital position had improved. [5]

The insurance company is also considering moving from a standard formula approach to an internal model approach to improve its capital strength, subject to obtaining regulatory approval for this change.

- (iii) Discuss the advantages and disadvantages of the insurance company moving to an internal model approach from the perspective of the insurance company. [3]
- (iv) Outline the issues the insurance regulator is likely to consider before agreeing to this change. [3]

[Total 14]

Q11. CP1 – April 2020 – Paper 1 – Q5

- (i) Outline why a company needs capital. [3]

ABC is a mutual insurance company specialising in providing life cover to the over 50s. ABC has just decided to expand its product range, and is about to launch a mortgage protection product.

- (ii) Suggest possible reasons why ABC could require additional capital. [4]
- (iii) Propose, with reasons, possible actions ABC could take to improve their capital position. [4]

[Total 11]

Q12. CP1 – September 2019 – Paper 1 – Q5

- (i) (Describe why the Economic Capital requirements of a company may be lower than its solvency capital requirements. [4]
- (ii) Describe how the company could use capital management tools to reduce the capital requirement in the future. [4]

An insurance company writes only immediate annuity business. Over the last year it has seen its liabilities, calculated on a best-estimate basis, reduce by 20%. However, over the same period its solvency capital requirements have increased by 20%.

- (iii) Discuss possible reasons for these changes in liabilities and solvency capital requirements. [4]

[Total 12]

Q13. CP1 – September 2019 – Paper 1 – Q8

An insurance company only writes term assurance contracts. The company has been monitoring its mortality experience for many years.

- (i) Describe the reasons for monitoring the mortality experience of these contracts. [4]

The mortality experience analysis has shown that the company has been underestimating the actual number of deaths that occurred over the last three years.

- (ii) Discuss the reasons why the mortality experience may have been heavier than expected. [7]
- (iii) Describe how the results of this analysis could be used. [3]

The company's mortality analysis team has raised concerns around selection in relation to these policies.

- (iv) Suggest possible reasons for the selection occurring in these policies. [4]

[Total 18]

Q14. CP1 – April 2019 – Paper 1 – Q2

- (i) Define the Minimum Capital Requirement and the Solvency Capital Requirement under the Solvency II regime. [2]
- (ii) Explain why an insurance company might use an internal model to assess its regulatory capital requirements. [4]

[Total 6]

Q15. CP1 – April 2018 – Paper 1 – Q2

- (i) Describe the following:

(a) solvency capital

(b) economic capital [5]

	Economic Capital Basis	Solvency Capital Basis
Assets	\$1,300m	\$1,300m
Liabilities (including the capital requirements in respect of it liabilities)	\$1,000m	\$1,100m
Free capital	\$300m	\$200m

The standard regulatory model shows the following funding positions for an insurance company that sells annuity business and term assurance business, on both a solvency and economic capital basis. (ii) Suggest the likely reasons why the "Free capital" is higher under the Economic capital basis. [3]

The Finance Director of the insurance company believes that it would be able to obtain a further \$75m Free capital on a solvency capital basis if the insurance company used an internal model, rather than the standard regulatory model.

- (iii) Discuss the advantages and disadvantages to the insurance company of using an internal model to determine its free capital. [4]

[Total 12]

Q16. CP1 – April 2017 – Paper 1 – Q3

An insurance company wants to maximise return on capital allowing for risk.

- (i) Describe the risk management tools that would be used. [8]
- (ii) Explain the purpose of underwriting prior to acceptance of risk and how this helps the provider achieve the goal above. [4]
- (iii) Discuss how claims control systems and management control systems can be used to manage risk. [6]

[Total 18]

Q17. CP1 – April 2016 – Paper 1 – Q6

- (i) Describe the following:
 - (a) solvency capital
 - (b) economic capital [6]
- (ii) Explain the likely relationship between solvency capital and economic capital. [3]

An insurance company writes long term care contracts.

- (iii) Outline how the company can use an economic balance sheet to assess its available capital. [8]

[Total 17]

Q18. CP1 – April 2016 – Paper 1 – Q7

A large insurance company has written a significant number of whole life assurance and annuity products. The insurance company has more assets than are required to meet its liabilities. It has recently stopped writing new business and has decided to carry out an investment strategy review. It currently uses two portfolios in its investment strategy:

Portfolio M: The matching portfolio, consisting of passively managed high quality domestic bonds

Portfolio G: The growth portfolio, consisting of actively managed domestic and overseas equity

- (i) Outline how the insurance company may develop an appropriate investment strategy for the portfolio M. [3]
- (ii) Outline the different investment risks that may arise with the company's overall investment strategy. [3]
- (iii) Discuss how the insurance company may use risk budgeting techniques to control the overall risk in its investment portfolios. [5]
- (iv) Discuss how the insurance company could determine benchmarks and monitor the performance of its investment strategy for both portfolios. [7]
- (v) Explain, using examples, why the performance of the growth portfolio may not be in line with a specified benchmark. [5]

The regulator is proposing changes to the way assets are valued for solvency purposes. The proposals include introducing adjustments to the market value of different asset classes and placing restrictions on the maximum holding of different assets for solvency purposes.

- (vi) Discuss how the proposed changes to regulations could impact on the investment strategy of the insurance company. [7]

[Total 30]