

# Risk, regulation and capital adequacy

**Objective:** To develop in the candidate:

- a knowledge and appreciation of the nature of risk and risk management;
- a knowledge and appreciation of the capital adequacy requirements for insurers and reinsurers;
- a knowledge and appreciation of the regulatory requirements for the insurance industry;
- a knowledge and understanding of basic statistical concepts relating to the insurance environment and the estimation of risk;
- an awareness and appreciation of topical insurance industry debates and developments in relation to risk, and to regulatory requirements;
- the ability to present and interpret data and apply knowledge and skills in practical situations;
- the ability to synthesise different aspects of the syllabus and apply them to given scenarios.

## Assumed knowledge and application skills:

Assumed knowledge may not appear in detail within the learning outcomes but forms part of the syllabus and thus may be examined. It is assumed that the candidate already has knowledge of the fundamentals of insurance gained from a study of IF1 Insurance, legal and regulatory or an equivalent qualification.

## Notes:

- **The syllabus will be based on English law and practice.**
- **The April session will test the legal position as of 31st August of the preceding year.**
- **The October session will test the legal position as of 28th February of the same year.**

## 1. Risk

### 1.1 Perception of risk and the difference between perceived and actual risk

Candidates should be able to

- *explain* the reasons for the difference between perceived and actual risk.

### 1.2 Responses to risk

Candidates should be able to

- *discuss* the different responses to risk of individuals and corporations.

### 1.3 Utility theory

Candidates should be able to

- *describe* the main features of utility theory;
- *apply* utility theory to insurance.

### 1.4 Ways in which risk affects the business environment and the cost of risk

Candidates should be able to

- *describe* and *analyse* the implications of risk for the business environment;
- *analyse* the financial implications of risk;
- *discuss* the requirements for companies in order to meet statutory regulations in the analysis, reporting and monitoring of risk.

## 2. Risk management

### 2.1 Risk management

Candidates should be able to

- *give* a clear definition of risk management;
- *describe* the effectiveness of the risk management process;
- *describe* the importance to and impact of risk management on businesses;
- *demonstrate awareness* of current high level industry debates in relation to risk and risk management.

### 2.2 Risk identification

Candidates should be able to

- *describe* the main features of risk identification techniques, including:
  - physical inspections;
  - flow charts;
  - check lists;
- *recognise* the limitations of risk identification techniques and *evaluate* their effectiveness in different situations.

### 2.3 Risk analysis

Candidates should be able to

- *describe* the main features of risk analysis;
- *recognise* the limitations of risk analysis techniques and *evaluate* their effectiveness in different situations.

### 2.4 Risk control

Candidates should be able to

- *describe* the main features of risk control;
- *recognise* the limitations of risk control techniques and *evaluate* their effectiveness in different situations;
- *discuss* the need for and measures used in the control of property, liability and pecuniary risks.

### 2.5 Risk transfer

Candidates should be able to

- *describe* and *evaluate* risk transfer options as part of the risk management process.

### 2.6 Characteristics of risk data

Candidates should be able to

- *describe* the characteristics of risk data both qualitative and quantitative.

## 3. Risk financing

### 3.1 Methods of risk financing

Candidates should be able to

- *explain* the main methods of risk financing;
- *explain* the use of these methods;
- *assess* the implications of using each method.

## 4. Risk data

### 4.1 Data collection

Candidates should be able to

- *describe* typical methods of data collection;
- *discuss* the nature of internal data and the advantages and disadvantages compared to published data.

### 4.2 Representation of risk data

Candidates should be able to

- *identify* and *describe* typical techniques for representing risk data;
- *construct* and *interpret* methods of data representation including:
  - graphs;
  - charts;
  - histograms;
- *recommend* the most appropriate techniques for different situations.

### 4.3 Databases

Candidates should be able to

- *outline* the uses and features of databases;
- *describe* the process involved in creating databases.

### 4.4 Sources of data

Candidates should be able to

- *list* and *describe* sources of published data.

### 4.5 Frequency distributions

Candidates should be able to

- *construct* and *use* frequency distributions to represent data.

### 4.6 Statistical risk measurement

Candidates should be able to

- *calculate* and *evaluate* the effectiveness of statistical risk measurement techniques such as:
  - measurement of location;
  - measurement of dispersion;
  - measurement of skew.

### 4.7 Probability

Candidates should be able to

- *describe* the concept and main elements of probability;
- *apply* the main methods of deriving probability such as:
  - a priori;
  - relative frequency;
  - subjective probability;
- *combine* probabilities for alternative or joint events.

#### 4.8 Normal Distribution

Candidates should be able to

- *describe and apply* the main features of the Normal Distribution.

#### 4.9 Calculation of the standard deviation

Candidates should be able to

- *understand, calculate and evaluate* standard deviation.

#### 4.10 Application of risk estimation techniques

Candidates should be able to

- *apply* risk estimation techniques, including:
  - linear regression;
  - correlation.

### 5. Risk pricing

#### 5.1 Basis of premium calculations for reinsurance contracts

Candidates should be able to

- *describe* the basis of premium calculations for reinsurance contracts;
- *assess* the factors that need to be considered in this process.

#### 5.2 Pricing of the direct risk and the factors which influence the calculation of the premium

Candidates should be able to

- *describe* the pricing methods for direct risks;
- *analyse* the factors which influence the calculation of the premium.

### 6. Capital adequacy

#### 6.1 Capital adequacy and solvency

Candidates should be able to

- *explain* the solvency margin and reasons for its calculation;
- *outline* the calculation of solvency requirements;
- *describe* the requirements for insurers to submit annual financial returns.

#### 6.2 Monitoring

Candidates should be able to

- *explain* who monitors capital adequacy;
- *outline* the consequences for insurers of failing to maintain capital adequacy.

#### 6.3 Capital constraints

Candidates should be able to

- *explain* the requirement for capital adequacy and the impact of capital constraints in the insurance industry;
- *outline* the treatment of capital under the Financial Services Authority Prudential regime;
- *outline* the provisions of Solvency II and *assess* its implications for the insurance industry.

#### 6.4 Risk-Based Capital

Candidates should be able to

- *outline* the link between risk and capital management;
- *explain* the application of RBC techniques, including enhanced capital requirements.

#### 6.5 Rating agencies

Candidates should be able to

- *describe* the role of rating agencies and their impact on insurers.

### 7. Regulation and supervision

#### 7.1 The European Union

Candidates should be able to

- *outline* the rights of establishment and freedom of services under the Treaty of Rome and EC directives;
- *analyse* their impact on and implications for the insurance and reinsurance markets;
- *explain* the principles of the Freedom of Establishment and the impact for insurers;
- *outline* the principles relating to Home Country and Host Country control;
- *outline* the role of the International Association of Insurance Supervisors.

#### 7.2 Financial Services Authority

Candidates should be able to

- *explain* the role, aims and objectives of the FSA;
- *discuss* the FSA risk based approach to regulation, monitoring and supervision;
- *explain* the main FSA provisions for supervision of the UK insurance and reinsurance markets;
- *outline and discuss* major FSA themes and industry debates in relation to regulatory requirements.

#### 7.3 Training and Competence

Candidates should be able to

- *outline* the training and competence requirements for an insurer and an intermediary;
- *explain* the consequences of non-compliance.

#### Reading list

The following list provides details of various publications which may assist with your studies. Periodicals and publications listed will be of value in ensuring candidates keep up to date with developments and in providing a wider coverage of syllabus topics. Any reference materials cited are authoritative, detailed works which should be used selectively as and when required.

**Note: The examination will test the syllabus alone.** The reading list is provided for guidance only and is not in itself the subject of the examination.

CII/Personal Finance Society members can borrow most of these additional study materials from CII Knowledge Services and may be able to purchase some at a special discount. For further information on lending and discounts go to [www.cii.co.uk/knowledge](http://www.cii.co.uk/knowledge).

Risk, regulation and capital adequacy. London: CII. Coursebook 510.

Insurance in the single market. Paul Clarke. London: CII Knowledge Services. Updated as necessary. Available online at [www.cii.co.uk/knowledge/factfiles](http://www.cii.co.uk/knowledge/factfiles) (CII/Personal Finance Society members only).

The prudential regulation of insurance companies. Tony Wiltshire. London: CII Knowledge Services. Updated as necessary. Available online at [www.cii.co.uk/knowledge/factfiles](http://www.cii.co.uk/knowledge/factfiles) (CII/Personal Finance Society members only).

The regulation of general insurance and protection business. Tony Wiltshire. London: CII Knowledge Services. Updated as necessary. Available online at [www.cii.co.uk/knowledge/factfiles](http://www.cii.co.uk/knowledge/factfiles) (CII/Personal Finance Society members only).

The regulation of general insurance intermediaries. Tony Wiltshire. London: CII Knowledge Services. Updated as necessary. Available online at [www.cii.co.uk/knowledge/factfiles](http://www.cii.co.uk/knowledge/factfiles) (CII/Personal Finance Society members only).

The regulation of retail investment business. Tony Wiltshire. London: CII Knowledge Services. Updated as necessary. Available online at [www.cii.co.uk/knowledge/factfiles](http://www.cii.co.uk/knowledge/factfiles) (CII/Personal Finance Society members only).

The regulatory framework. Simon Collins. London: CII Knowledge Services. Updated as necessary. Available online at [www.cii.co.uk/knowledge/factfiles](http://www.cii.co.uk/knowledge/factfiles) (CII/PFS members only).

Risk analysis. Gordon C A Dickson. 3rd ed. London: Witherby, 2003.

Risk management organisation and context. Steven Ward. 1st ed. London: Witherby, 2005.

### **Reference materials**

Dictionary of insurance. C Bennett. 2nd ed, London: Pearson Education, 2004. Also available online at [www.cii.co.uk/knowledge/doi](http://www.cii.co.uk/knowledge/doi) (CII/Personal Finance Society members only).

Regulation of insurance in the United Kingdom and Ireland. T Henry Ellis, James A Wiltshire. London: Sweet & Maxwell. Looseleaf, updated.

Insurance law handbook. Barlow Lyde & Gilbert. 4th ed. Haywards Heath: Tottel, 2008. (Formerly: Tolley's insurance handbook.)

Tolley's life and allied insurance handbook. Mike Mead ... [et al]. Croydon: Tolley, 2001. (Republished by Tottel as: Life and allied insurance handbook.)

### **Periodicals**

The Journal. London: The CII. Six issues a year. Also available online (CII/Personal Finance Society members only) at [www.cii.co.uk/knowledge/journal](http://www.cii.co.uk/knowledge/journal)

Post Magazine. London: Incisive Financial Publishing. Weekly.

Insurance Times. London: Newsquest Specialist Media. Weekly.

### **Websites**

CII Knowledge Services – [www.cii.co.uk/knowledge](http://www.cii.co.uk/knowledge)

Financial Services Authority – [www.fsa.gov.uk](http://www.fsa.gov.uk)

Students are advised to refer in particular to capital adequacy and insurance regulatory issues on this website.

Association of British Insurers – [www.abi.org.uk](http://www.abi.org.uk)

### **Examination guides**

Guides are produced for each sitting of written answer examinations. These include the exam questions, examiners' comments on candidates' performance and key points for inclusion in answers. You are strongly advised to study guides for the last two sittings. Please visit [www.cii.co.uk](http://www.cii.co.uk) to buy online or contact CII Customer Service for further information on 020 8989 8464. Older examination guides are available (for members only) at [www.cii.co.uk/knowledge/examguides](http://www.cii.co.uk/knowledge/examguides).

### **Exam technique/study skills**

There are many modestly priced guides available in bookshops. You should choose one which suits your requirements. You will also find advice at [www.cii.co.uk/knowledge/careersupport](http://www.cii.co.uk/knowledge/careersupport) (CII/Personal Finance Society members only).

For a more interactive approach, you should consider: Winning the brain game. London: CII, 2006. CD-ROM.