

CIMA

Subject P3

Risk Management

Study Text



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# Introduction

## How to use the Materials

These official CIMA learning materials have been carefully designed to make your learning experience as easy as possible and to give you the best chances of success in your objective tests.

The product range contains a number of features to help you in the study process. They include:

- a detailed explanation of all syllabus areas
- extensive 'practical' materials
- generous question practice, together with full solutions.

This Study Text has been designed with the needs of home study and distance learning candidates in mind. Such students require very full coverage of the syllabus topics, and also the facility to undertake extensive question practice. However, the Study Text is also ideal for fully taught courses.

The main body of the text is divided into a number of chapters, each of which is organised on the following pattern:

- **Detailed learning outcomes.** These describe the knowledge expected after your studies of the chapter are complete. You should assimilate these before beginning detailed work on the chapter, so that you can appreciate where your studies are leading.
- **Step-by-step topic coverage.** This is the heart of each chapter, containing detailed explanatory text supported where appropriate by worked examples and exercises. You should work carefully through this section, ensuring that you understand the material being explained and can tackle the examples and exercises successfully. Remember that in many cases knowledge is cumulative: if you fail to digest earlier material thoroughly, you may struggle to understand later chapters.
- **Activities.** Some chapters are illustrated by more practical elements, such as comments and questions designed to stimulate discussion.
- **Question practice.** The text contains three styles of question:
  - Exam-style objective test questions (OTQs).
  - 'Integration' questions – these test your ability to understand topics within a wider context. This is particularly important with calculations where OTQs may focus on just one element but an integration question tackles the full calculation, just as you would be expected to do in the workplace.

- ‘Case’ style questions – these test your ability to analyse and discuss issues in greater depth, particularly focusing on scenarios that are less clear cut than in the objective tests, and thus provide excellent practice for developing the skills needed for success in the Management Level Case Study Examination.
- **Solutions.** Avoid the temptation merely to ‘audit’ the solutions provided. It is an illusion to think that this provides the same benefits as you would gain from a serious attempt of your own. However, if you are struggling to get started on a question you should read the introductory guidance provided at the beginning of the solution, where provided, and then make your own attempt before referring back to the full solution.

If you work conscientiously through this Official CIMA Study Text according to the guidelines above you will be giving yourself an excellent chance of success in your objective tests. Good luck with your studies!

Quality and accuracy are of the utmost importance to us so if you spot an error in any of our products, please send an email to [mykaplanreporting@kaplan.com](mailto:mykaplanreporting@kaplan.com) with full details, or follow the link to the feedback form in MyKaplan.

Our Quality Co-ordinator will work with our technical team to verify the error and take action to ensure it is corrected in future editions.

### Icon explanations



**Definition** – These sections explain important areas of knowledge which must be understood and reproduced in an assessment environment.



**Key point** – Identifies topics which are key to success and are often examined.



**Supplementary reading** – These sections will help to provide a deeper understanding of core areas. The supplementary reading is **NOT** optional reading. It is vital to provide you with the breadth of knowledge you will need to address the wide range of topics within your syllabus that could feature in an assessment question. **Reference to this text is vital when self-studying.**



**Test your understanding** – Following key points and definitions are exercises which give the opportunity to assess the understanding of these core areas.



**Illustration** – To help develop an understanding of particular topics. The illustrative examples are useful in preparing for the Test your understanding exercises.

## Study technique

Passing exams is partly a matter of intellectual ability, but however accomplished you are in that respect you can improve your chances significantly by the use of appropriate study and revision techniques. In this section we briefly outline some tips for effective study during the earlier stages of your approach to the objective tests. We also mention some techniques that you will find useful at the revision stage.

### Planning

To begin with, formal planning is essential to get the best return from the time you spend studying. Estimate how much time in total you are going to need for each subject you are studying. Remember that you need to allow time for revision as well as for initial study of the material.

With your study material before you, decide which chapters you are going to study in each week, and which weeks you will devote to revision and final question practice.

Prepare a written schedule summarising the above and stick to it!

It is essential to know your syllabus. As your studies progress you will become more familiar with how long it takes to cover topics in sufficient depth. Your timetable may need to be adapted to allocate enough time for the whole syllabus.

Students are advised to refer to the examination blueprints (see page P.13 for further information) and the CIMA website, [www.cimaglobal.com](http://www.cimaglobal.com), to ensure they are up-to-date.

The amount of space allocated to a topic in the Study Text is not a very good guide as to how long it will take you. The syllabus weighting is the better guide as to how long you should spend on a syllabus topic.

## **Tips for effective studying**

- (1) Aim to find a quiet and undisturbed location for your study, and plan as far as possible to use the same period of time each day. Getting into a routine helps to avoid wasting time. Make sure that you have all the materials you need before you begin so as to minimise interruptions.
- (2) Store all your materials in one place, so that you do not waste time searching for items every time you want to begin studying. If you have to pack everything away after each study period, keep your study materials in a box, or even a suitcase, which will not be disturbed until the next time.
- (3) Limit distractions. To make the most effective use of your study periods you should be able to apply total concentration, so turn off all entertainment equipment, set your phones to message mode, and put up your 'do not disturb' sign.
- (4) Your timetable will tell you which topic to study. However, before diving in and becoming engrossed in the finer points, make sure you have an overall picture of all the areas that need to be covered by the end of that session. After an hour, allow yourself a short break and move away from your Study Text. With experience, you will learn to assess the pace you need to work at. Each study session should focus on component learning outcomes – the basis for all questions.
- (5) Work carefully through a chapter, making notes as you go. When you have covered a suitable amount of material, vary the pattern by attempting a practice question. When you have finished your attempt, make notes of any mistakes you made, or any areas that you failed to cover or covered more briefly. Be aware that all component learning outcomes will be tested in each examination.
- (6) Make notes as you study, and discover the techniques that work best for you. Your notes may be in the form of lists, bullet points, diagrams, summaries, 'mind maps', or the written word, but remember that you will need to refer back to them at a later date, so they must be intelligible. If you are on a taught course, make sure you highlight any issues you would like to follow up with your lecturer.
- (7) Organise your notes. Make sure that all your notes, calculations etc. can be effectively filed and easily retrieved later.



## Progression

There are two elements of progression that we can measure: how quickly students move through individual topics within a subject; and how quickly they move from one course to the next. We know that there is an optimum for both, but it can vary from subject to subject and from student to student. However, using data and our experience of student performance over many years, we can make some generalisations.

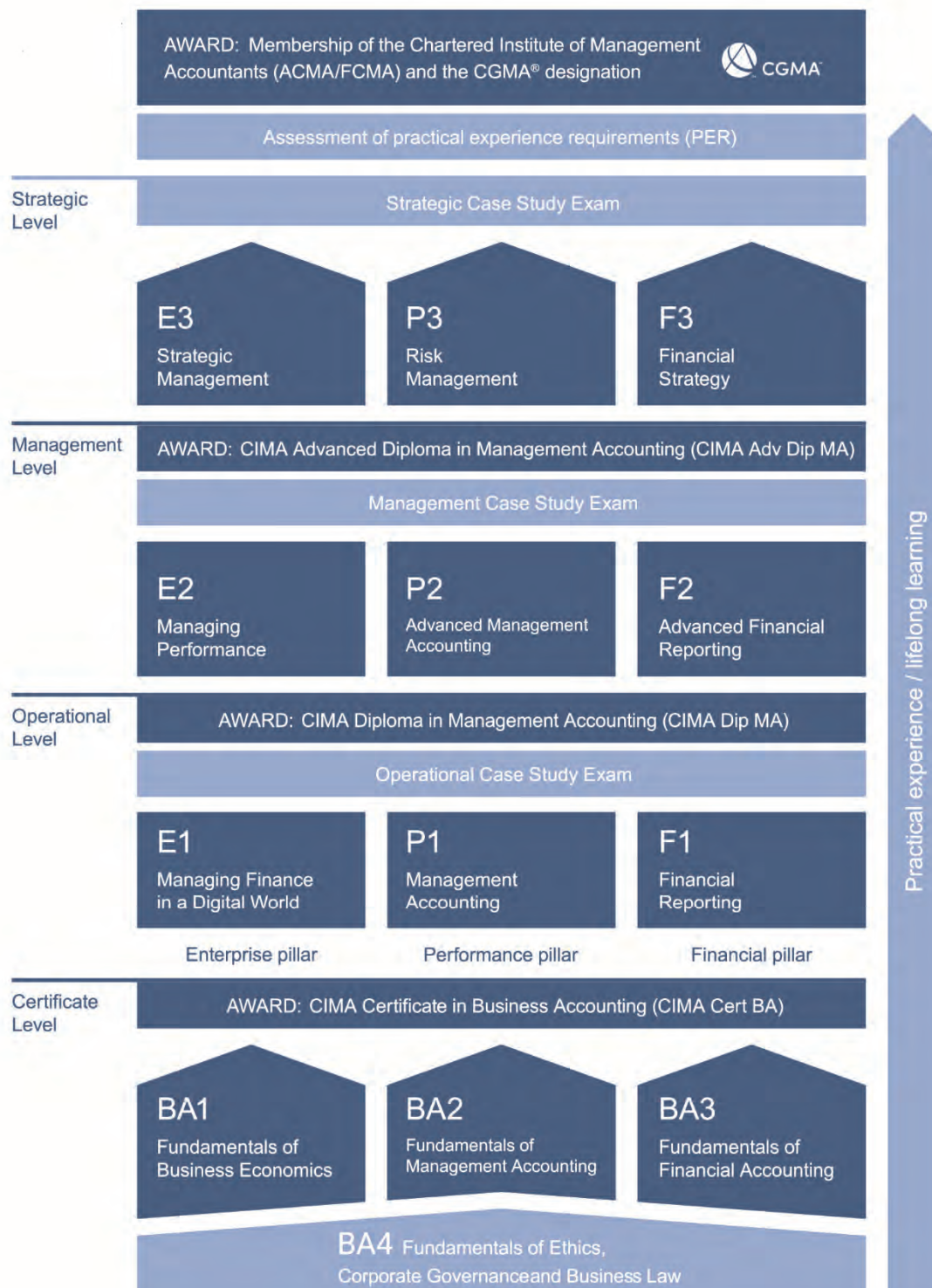
A fixed period of study set out at the start of a course with key milestones is important. This can be within a subject, for example 'I will finish this topic by 30 June', or for overall achievement, such as 'I want to be qualified by the end of next year'.

Your qualification is cumulative, as earlier papers provide a foundation for your subsequent studies, so do not allow there to be too big a gap between one subject and another. For example, P3 *Risk management* builds on your knowledge of risks and controls from P2 *Advanced management accounting* as well as your understanding of the digital environment from the E pillar papers.

We know that exams encourage techniques that lead to some degree of short term retention, the result being that you will simply forget much of what you have already learned unless it is refreshed (look up Ebbinghaus Forgetting Curve for more details on this). This makes it more difficult as you move from one subject to another: not only will you have to learn the new subject, you will also have to relearn all the underpinning knowledge as well. This is very inefficient and slows down your overall progression which makes it more likely you may not succeed at all.

In addition, delaying your studies slows your path to qualification which can have negative impacts on your career, postponing the opportunity to apply for higher level positions and therefore higher pay.

You can use the following diagram showing the whole structure of your qualification to help you keep track of your progress. Make sure you carefully review the 2019 CIMA syllabus transition rules and seek appropriate advice if you are unsure about your progression through the qualification.



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## Objective test

Objective test questions require you to choose or provide a response to a question whose correct answer is predetermined.

The most common types of objective test question you will see are:

- Multiple choice, where you have to choose the correct answer(s) from a list of possible answers. This could either be numbers or text.
- Multiple choice with more choices and answers, for example, choosing two correct answers from a list of eight possible answers. This could either be numbers or text.
- Single numeric entry, where you give your numeric answer, for example, profit is \$10,000.
- Multiple entry, where you give several numeric answers.
- True/false questions, where you state whether a statement is true or false.
- Matching pairs of text, for example, matching a technical term with the correct definition.
- Other types could be matching text with graphs and labelling graphs/diagrams.

In every chapter of this Study Text we have introduced these types of questions, but obviously we have had to label answers A, B, C etc. rather than using click boxes. For convenience, we have retained quite a few questions where an initial scenario leads to a number of sub-questions. There will be no questions of this type in the objective tests.

### Guidance re CIMA on-screen calculator

As part of the CIMA objective test software, candidates are now provided with a calculator. This calculator is on-screen and is available for the duration of the assessment. The calculator is available in each of the objective tests and is accessed by clicking the calculator button in the top left hand corner of the screen at any time during the assessment. Candidates are permitted to utilise personal calculators as long as they are an approved CIMA model. Authorised CIMA models are listed here: <https://www.cimaglobal.com/Studying/study-and-resources/>.

All candidates must complete a 15-minute exam tutorial before the assessment begins and will have the opportunity to familiarise themselves with the calculator and practise using it. The exam tutorial is also available online via the CIMA website.

Candidates may practise using the calculator by accessing the online exam tutorial.

### Fundamentals of objective tests

The objective tests are 90-minute assessments comprising 60 compulsory questions, with one or more parts. There will be no choice and all questions should be attempted. All elements of a question must be answered correctly for the question to be marked correctly. All questions are equally weighted.

## CIMA syllabus 2019 – Structure of subjects and learning outcomes

Details regarding the content of the new CIMA syllabus can be located within the CIMA 2019 professional syllabus document.

Each subject within the syllabus is divided into a number of broad syllabus topics. The topics contain one or more lead learning outcomes, related component learning outcomes and indicative knowledge content.

A learning outcome has two main purposes:

- (a) To define the skill or ability that a well prepared candidate should be able to exhibit in the examination.
- (b) To demonstrate the approach likely to be taken in examination questions.

The learning outcomes are part of a hierarchy of learning objectives. The verbs used at the beginning of each learning outcome relate to a specific learning objective, e.g.

**Calculate** the break-even point, profit target, margin of safety and profit/volume ratio for a single product or service.

The verb '**calculate**' indicates a level three learning objective. The following tables list the verbs that appear in the syllabus learning outcomes and examination questions.

## The examination blueprints and representative task statements

CIMA have also published examination blueprints giving learners clear expectations regarding what is expected of them.

The blueprint is structured as follows:

- Exam content sections (reflecting the syllabus document)
- Lead and component outcomes (reflecting the syllabus document)
- Representative task statements.

A representative task statement is a plain English description of what a CIMA finance professional should know and be able to do.

The content and skill level determine the language and verbs used in the representative task.

CIMA will test up to the level of the task statement in the objective tests (an objective test question on a particular topic could be set at a lower level than the task statement in the blueprint).

The format of the objective test blueprints follows that of the published syllabus for the 2019 CIMA Professional Qualification.

Weightings for content sections are also included in the individual subject blueprints.

## CIMA VERB HIERARCHY

CIMA place great importance on the definition of verbs in structuring objective tests. It is therefore crucial that you understand the verbs in order to appreciate the depth and breadth of a topic and the level of skill required. The objective tests will focus on levels one, two and three of the CIMA hierarchy of verbs. However, they will also test levels four and five, especially at the management and strategic levels.

Skill level	Verbs used	Definition
<b>Level 5 Evaluation</b> How you are expected to use your learning to evaluate, make decisions or recommendations	Advise Assess Evaluate Recommend Review	Counsel, inform or notify Evaluate or estimate the nature, ability or quality of Appraise or assess the value of Propose a course of action Assess and evaluate in order, to change if necessary
<b>Level 4 Analysis</b> How you are expected to analyse the detail of what you have learned	Align Analyse Communicate Compare and contrast Develop Discuss Examine Interpret Monitor Prioritise Produce	Arrange in an orderly way Examine in detail the structure of Share or exchange information Show the similarities and/or differences between Grow and expand a concept Examine in detail by argument Inspect thoroughly Translate into intelligible or familiar terms Observe and check the progress of Place in order of priority or sequence for action Create or bring into existence
<b>Level 3 Application</b> How you are expected to apply your knowledge	Apply Calculate Conduct Demonstrate Prepare Reconcile	Put to practical use Ascertain or reckon mathematically Organise and carry out Prove with certainty or exhibit by practical means Make or get ready for use Make or prove consistent/compatible

Skill level	Verbs used	Definition
<b>Level 2 Comprehension</b> What you are expected to understand	Describe Distinguish Explain Identify Illustrate	Communicate the key features of Highlight the differences between Make clear or intelligible/state the meaning or purpose of Recognise, establish or select after consideration Use an example to describe or explain something
<b>Level 1 Knowledge</b> What you are expected to know	List State Define Outline	Make a list of Express, fully or clearly, the details/facts of Give the exact meaning of Give a summary of

Information concerning formulae and tables will be provided via the CIMA website, [www.cimaglobal.com](http://www.cimaglobal.com).

# SYLLABUS GRIDS

## P3: Risk Management

Analyse, evaluate and manage strategic, operational and cyber risks

### Content weighting

Content area		Weighting
A	Enterprise risk	25%
B	Strategic risk	25%
C	Internal controls	25%
D	Cyber risk	25%
		<b>100%</b>

## P3A: Enterprise risk

Not all intended strategies are implemented due to various factors. These factors constitute the operating enterprise-wide risks of the organisation. This section covers how to identify, evaluate and manage these risks.

Lead outcome	Component outcome	Topics to be covered	Explanatory notes
1. Analyse sources and types of risk.	Analyse: a. Sources of risks b. Types of risks	<ul style="list-style-type: none"> <li>Upside and downside risks</li> <li>Risks arising from internal and external sources</li> <li>Risks arising from international operations</li> <li>Strategic and operational risks</li> </ul>	What are the types and sources of risks that would prevent organisations from implementing their intended strategy?
2. Evaluate risk.	a. Evaluate the impact of risk b. Assess the likelihood of risks c. Analyse the interaction of different risks	<ul style="list-style-type: none"> <li>Quantification of risk exposure</li> <li>Risk maps</li> </ul>	What is the impact of the risks on the organisation? What techniques are available to evaluate the impact of such risks?
3. Discuss ways of managing risks.	Discuss: a. Roles and responsibilities b. Risk tolerance, appetite and capacity c. Risk management frameworks d. Risk analytics	<ul style="list-style-type: none"> <li>Role of board and others in the organisation for identifying and managing risks</li> <li>Risk mitigation including TARA – transfer, avoid, reduce, accept</li> <li>Assurance mapping</li> <li>Risk register</li> <li>Risk reports and responses</li> <li>Ethical dilemmas associated with risk management</li> </ul>	How is risk managed in the organisation? How is responsibility for various aspects of risk management distributed in the organisation? How does the organisation align its risk tolerance, appetite and capacity to its decisions and actions? What risk management frameworks are there? How is risk information communicated to the organisation?



## P3B: Strategic risk

A fundamental risk of the organisation is that its strategy is the wrong one and that even if implemented perfectly, it will achieve the wrong outcome for the organisation. In addition, some risks are of such high significance that they can affect the very existence of the organisation. This section covers where these risks emanate from, evaluates them and explains how oversight of such risks is critical to the governance of the organisation.

Lead outcome	Component outcome	Topics to be covered	Explanatory notes
1. Analyse risks associated with formulating strategy.	a. Analyse relevance of the assumptions on which strategy is based. b. Discuss potential sources and types of disruptions to strategy.	<ul style="list-style-type: none"> <li>• Analysis of strategic choice</li> <li>• Scenario planning</li> <li>• Stress-testing strategy</li> </ul>	What are the risks that the strategy of the organisation is wrong? What are the sources of such risks? How does the organisation evolve its strategy in a dynamic environment to keep it relevant?
2. Evaluate the sources and impact of reputational risks.	Evaluate: a. Sources of reputational risk b. Impact of reputational risk on strategy	<ul style="list-style-type: none"> <li>• Risks of unethical behaviour</li> <li>• Impact on brand and reputation of organisation</li> </ul>	What is reputational risk and why is it an important strategic risk? What are the types and sources of reputational risks and what is their impact on the organisation? How can they be managed?
3. Explain governance risks.	Explain: a. The role of board and its committees in managing strategic risk b. Failure of governance and its impact on strategy	<ul style="list-style-type: none"> <li>• Separation of the roles of CEO and chairman</li> <li>• Role of non-executive directors</li> <li>• Roles of audit committee, remuneration committee, risk committee and nomination committee</li> <li>• Directors' remuneration</li> </ul>	What is the role of the board in risk management? How does governance risk occur? How is this role governed by the various corporate governance codes and principles?

## P3C: Internal controls

Control systems are an integral part of managing risks. Various control frameworks have been developed to assist in this process. In addition, the internal audit function performs a vital role in helping to implement and monitor implementation and adherence to the control frameworks. This section covers how internal control systems can be used effectively in the risk management process.

Lead outcome	Component outcome	Topics to be covered	Explanatory notes
1. Analyse internal control systems.	a. Discuss roles and responsibilities for internal controls. b. Discuss the purpose of internal control. c. Analyse the features of internal control systems.	<ul style="list-style-type: none"> <li>• Role of risk manager as distinct from internal auditor</li> <li>• Control systems in functional areas</li> <li>• Operational features of internal control</li> </ul>	What are the roles of internal control systems in managing risks? What are its key features and why?
2. Recommend internal controls for risk management.	a. Discuss the Committee of Sponsoring Organisations of the Treadway Commission (COSO) internal control and risk management framework. b. Assess control weakness. c. Assess compliance failures. d. Recommend internal controls for risk management.	<ul style="list-style-type: none"> <li>• Governance and culture</li> <li>• Strategy and objective setting</li> <li>• Performance</li> <li>• Review and revision</li> <li>• Information, communication and reporting</li> <li>• Identifying and evaluating control weakness and compliance failures</li> </ul>	This introduces the COSO framework as a comprehensive way of looking at internal controls in risk management. The objective is to get candidates to understand the key elements and know how to apply them in evaluating internal controls.
3. Discuss various issues relating to internal audit in organisations.	Discuss: <ol style="list-style-type: none"> <li>a. Forms of internal audit</li> <li>b. Internal audit process</li> <li>c. Effective internal audit</li> <li>d. The internal audit report</li> </ol>	<ul style="list-style-type: none"> <li>• Compliance audit, fraud investigation, value for money audit and management audit</li> <li>• Operation of internal audit</li> <li>• Assessment of audit risk</li> <li>• Process of analytical review</li> <li>• Independence, staffing and resourcing of internal audit</li> <li>• Preparation and interpretation of internal audit reports</li> </ul>	This part looks at the critical role that the internal audit function can play in risk management. The objective is to create awareness and understanding of the various issues in internal audit and how they link to each other.

## P3D: Cyber risks

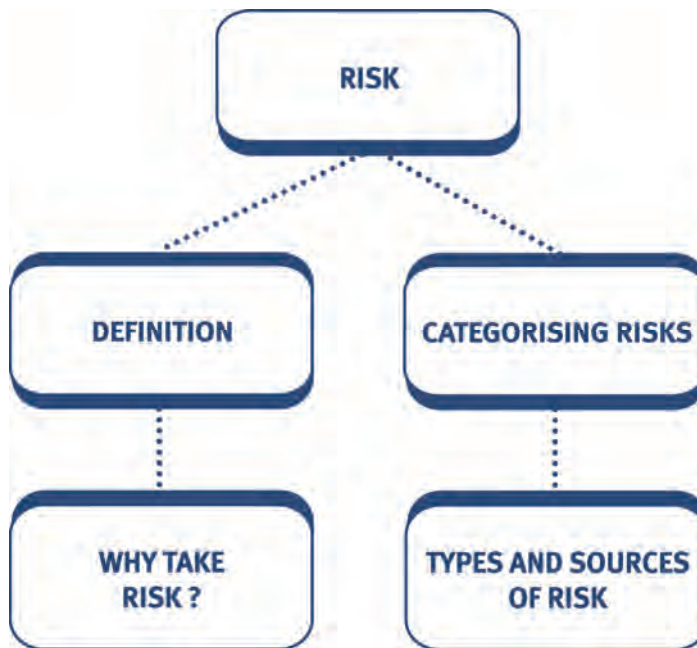
In a digital world one of the major threats is cyber risk. How are data and operating systems protected from unauthorised access and manipulation? How are breaches identified, analysed, remedied and reported? These are some of the questions covered in this section.

Lead outcome	Component outcome	Topics to be covered	Explanatory notes
1. Analyse cyber threats.	Analyse: a. Nature and impact of cyber risks b. Types of cyber risks c. Risk of security vulnerabilities.	<ul style="list-style-type: none"> <li>Malware</li> <li>Application attacks</li> <li>Hackers</li> <li>Result of vulnerabilities including downtime, reputational loss, customer flight, legal and industry consequences</li> </ul>	This part looks at where and how organisations can be vulnerable to cyber threats and the type and sources of such threats. In addition, it looks at the impact such threats can have on organisations.
2. Review cyber security processes.	Review: a. Cyber security objectives b. Security controls c. Centralisation in cyber security	<ul style="list-style-type: none"> <li>Protection, detection and response</li> <li>Centralised management</li> <li>Centralised monitoring</li> </ul>	The principal aim here is to enable candidates to understand how to manage cyber threats through cyber security processes. What objectives should organisations set in this area? What controls are available to organisations?
3. Discuss cyber security tools and techniques.	Discuss: a. Forensic analysis b. Malware analysis c. Penetration testing d. Software security	<ul style="list-style-type: none"> <li>System level analysis, storage analysis and network analysis</li> <li>Reverse engineering, decompilation and disassembly</li> <li>Network discovery, vulnerability probing, exploiting vulnerabilities</li> <li>Tiers of software security</li> </ul>	This part looks at the tools and techniques available to manage cyber risks. Candidates are expected to have a basic understanding of the techniques and how they can be deployed together.
4. Evaluate cyber risk reporting.	a. Evaluate cyber risk reporting frameworks	<ul style="list-style-type: none"> <li>Description criteria including nature of business and operations, nature of information at risk, risk management programme objectives, cybersecurity risk governance structure etc.</li> </ul>	How should cyber risks be reported? What reporting frameworks are available?

# Risk

## Chapter learning objectives

<b>Lead</b>	<b>Component</b>
A1. Analyse sources and types of risk	(a) Analyse sources of risk (b) Analyse types of risk
A3. Discuss ways of managing risks	(d) Discuss risk analytics



### 1 What is risk?

There are many different ways of defining risk including the following:

- Risk is a condition in which there exists a quantifiable dispersion in the possible outcomes from any activity. (CIMA official terminology)
- Risk can be defined as the combination of the probability of an event and its consequences (ISO Guide 73)
- Risk in business is the chance that future events or results may not be as expected.

Risk is often thought of as purely bad (pure or '**downside**' risk), but risk can also be good i.e. the results may be better than expected (speculative or '**upside**' risk) as well as worse.

In order to assess and measure the risks that an organisation faces, a business must be able to identify the principal sources of risk. Risks facing an organisation are those that affect the achievement of its overall objectives (which should be reflected in its strategic aims). Risk should be managed and there should be strategies for dealing with risk.



### Risk and uncertainty

The term 'risk' is often associated with the chance of something 'bad' will happen, **and that a future outcome will be adverse. This type of risk is called 'downside' risk or pure risk**, which is a risk involving the possibility of loss, with no chance of gain.

Examples of pure risk are the risk of disruption to business from a severe power cut, or the risk of losses from theft or fraud, the risk of damage to assets from a fire or accident, and risks to the health and safety of employees at work.

Not all risks are pure risks or downside risks. In many cases, risk is two-way, and actual outcomes might be either better or worse than expected. **Two-way risk** is sometimes called **speculative risk**. In many business decisions, there is an element of speculative risk - and management are aware that actual results could be better or worse than forecast.

For example, a new product launch might be more or less successful than planned, and the savings from an investment in labour-saving equipment might be higher or lower than anticipated.

**Risk** is inherent in a situation whenever an outcome is not inevitable. **Uncertainty**, by contrast, arises from ignorance and a lack of information. By definition, the future cannot be predicted under conditions of uncertainty because there is insufficient information about what the future outcomes might be or their probabilities of occurrence.

In business, uncertainty might be an element to be considered in decision-making. For example, there might be uncertainty about how consumers will respond to a new product or a new technology, or how shareholders will react to a cut in the annual dividend. Uncertainty is reduced by obtaining as much information as possible before making any decision.



### Why incur risk?





It is generally the case that firms must be willing to take higher risks if they want to achieve higher returns:

- To generate higher returns a business may have to take more risks in order to be competitive.
- Conversely, not accepting risk tends to make a business less dynamic, and implies a ‘follow the leader’ strategy.
- Incurring risk also implies that the returns from different activities will be higher – ‘benefit’ being the return for accepting risk.
- Benefits can be financial – decreased costs, or intangible – better quality information.
- In both cases, these will lead to the business being able to gain competitive advantage.

For some risks, the level of risk is rewarded with a market rate of return e.g. quoted equity – where a shareholder invests in a company with the expectation of a certain level of dividend and capital growth. However, for other risks there may not be a market rate of return e.g. technology risk – where a company invests in new software in the hope that it will make their invoice processing more efficient. The important distinction here is that the market compensates for the former type of risk, but might not for the latter.



**Benefits of taking risks**

		Activity risk	
		Low	High
Ability to gain competitive advantage	Low	2 Routine	4 Avoid
	High	1 Identify and develop	3 Examine carefully

Focusing on low-risk activities can easily result in a low ability to obtain competitive advantage – although where there is low risk there is also only a limited amount of competitive advantage to be obtained. For example, a mobile telephone operator may produce its phones in a wide range of colours. There is little or no risk of the technology failing, but the move may provide limited competitive advantage where customers are attracted to a particular colour of phone.

Some low-risk activities, however, will provide higher competitive advantage – when these can be identified. If these can be identified, then the activity should be undertaken because of the higher reward. For example, the mobile phone operator may find a way of easily altering mobile phones to make them safer with regard to the electrical emissions generated. Given that customers are concerned about this element of mobile phone use, there is significant potential to obtain competitive advantage. However, these opportunities are few and far between.

High-risk activities can similarly generate low or high competitive advantage. Activities with low competitive advantage will generally be avoided. There remains the risk that the activity will not work, and that the small amount of competitive advantage that would be generated is not worth that risk.

Other high-risk activities may generate significant amounts of competitive advantage. These activities may be worth investigating because of the high returns that can be generated. For example, a new type of mobile phone providing, say, GPS features for use while travelling, may provide significant competitive advantage for the company; the risk of investing in the phone is worthwhile in terms of the benefit that could be achieved.

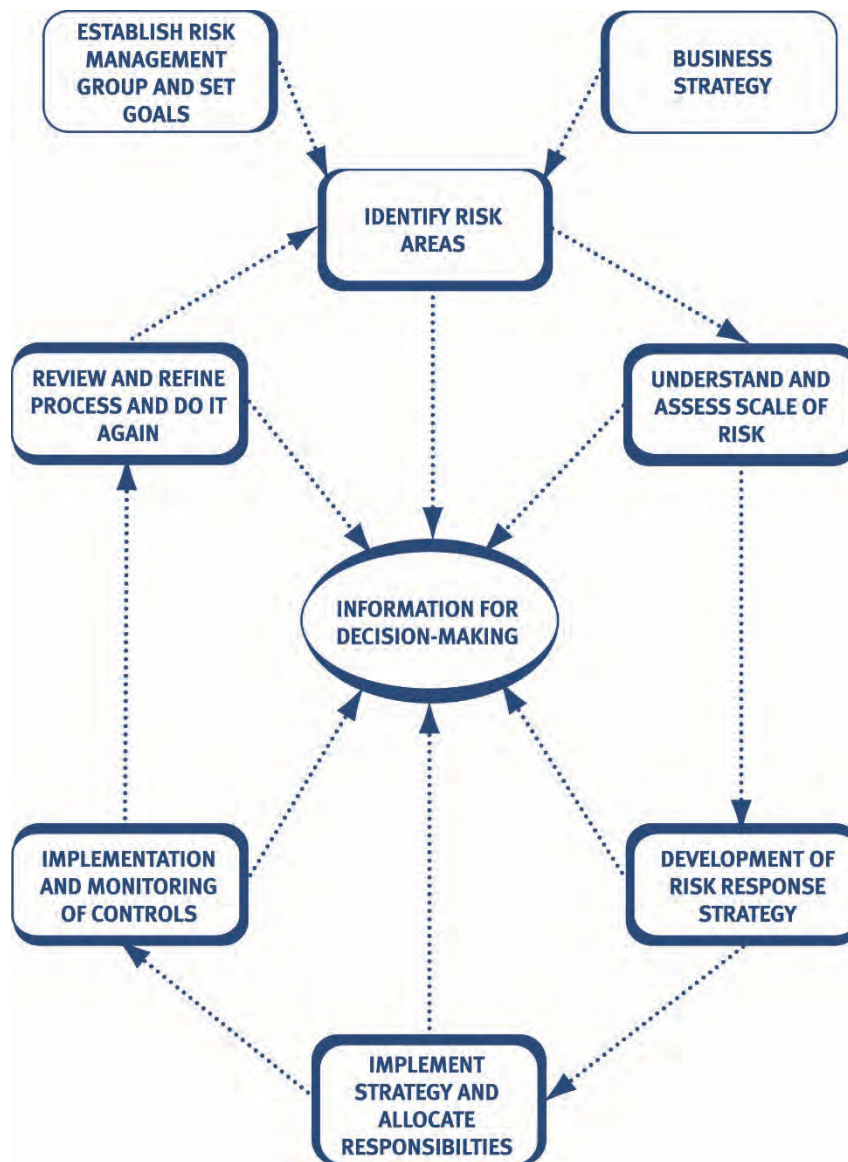
The point is, therefore, that if a business does not take some risk, it will normally be limited to activities providing little or no competitive advantage, which will limit its ability to grow and provide returns to its shareholders.



## 2 CIMA's risk management cycle

Risk management should be a proactive process that is an integral part of strategic management.

This perspective is summarised in **CIMA's risk management cycle**, illustrated below:



Source: Chartered Institute of Management Accountants (2002), Risk Management: A Guide to Good Practice, CIMA.

The risk management cycle is a very important tool for your exam.



### Test your understanding 1

CIMA's Risk Management Cycle identifies various activities that should be undertaken during risk management.

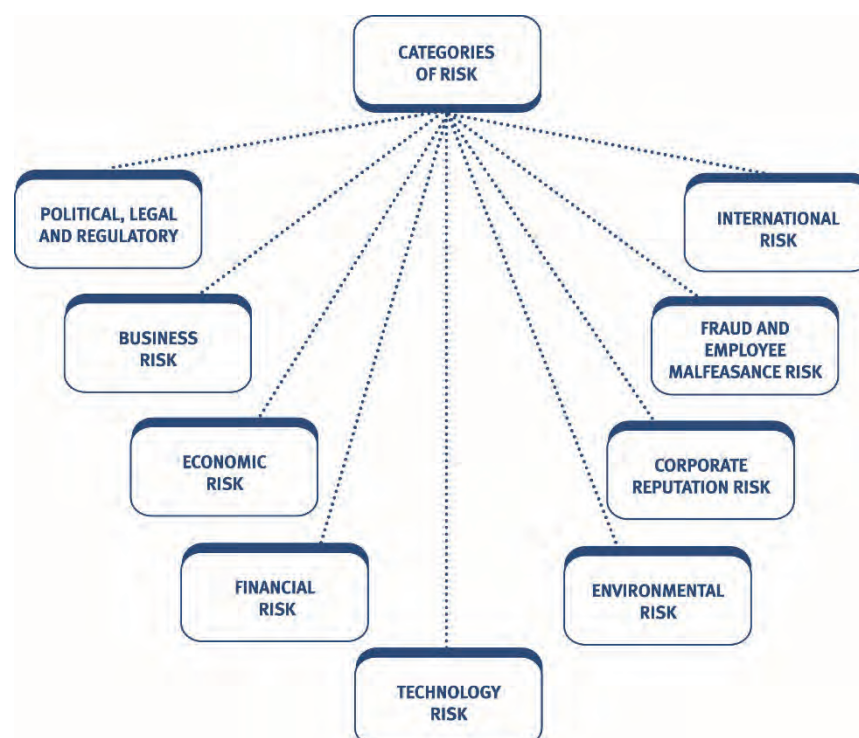
**Which of the following options shows the steps in the correct order?**

- A Identify risk areas; Develop risk response strategy; Allocate responsibilities; Establish risk management group.
- B Establish risk management group; Identify risk areas; Allocate responsibilities; Develop risk response strategy.
- C Allocate responsibilities; Identify risk areas; Develop risk response strategy; Establish risk management group.
- D Establish risk management group; Identify risk areas; Develop risk response strategy; Allocate responsibilities.

## 3 Types and sources of risk for business organisations

### Identifying and categorising risks

- Many organisations categorise risks into different types of risk. The use of risk categories can help with the process of risk identification and assessment.
- There is no single system of risk categories. The risk categories used by companies and other organisations differ according to circumstances. Some of the more commonly-used risk categories are described below.



## Political, legal and regulatory

These are the risks that businesses face because of the regulatory regime that they operate in. Some businesses may be subject to very strict regulations, for example companies that could cause pollution, but even companies that do not appear to be in a highly regulated industry have some regulatory risk. For example, all companies are subject to the risk of employment legislation changing or customers taking legal action.

This risk can be broken up into different types:

<b>Political risk</b>	Risk due to political instability. Generally considered to be external to the business.
<b>Legal/litigation risk</b>	Risk that legal action will be brought against the business.
<b>Regulatory risk</b>	Risk of changes in regulation affecting the business.
<b>Compliance risk</b>	Risk of non-compliance with the law resulting in fines/penalties, etc.



### More on political, legal and regulatory risks

**Political risk** depends to a large extent on the political stability and the political institutions in the country or countries in which an organisation operates. A change of government can sometimes result in dramatic changes for businesses. In an extreme case, for example, an incoming government might nationalise all foreign businesses operating in the country. Even in countries with a stable political system, political change can be significant. For example, an incoming new government might be elected on a platform of higher (or lower) taxation.

**Legal risk** or litigation risk arises from the possibility of legal action being taken against an organisation. For many organisations, this risk can be high. For example, hospitals and hospital workers might be exposed to risks of legal action for negligence. Tobacco companies have been exposed to legal action for compensation from cancer victims. Companies manufacturing or providing food and drink are also aware of litigation risk from customers claiming that a product has damaged their health.

**Regulatory risk** arises from the possibility that regulations will affect the way an organisation has to operate. Regulations might apply to businesses generally (for example, competition laws and anti-monopoly regulations) or to specific industries.

**Compliance risk** is the risk of losses, possibly fines, resulting from non-compliance with laws or regulations. Measures to ensure compliance with rules and regulations should be an integral part of an organisation's internal control system.

## Business risk

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Business risk is the risk businesses face owing to the nature of their operations and products. Some businesses for instance are reliant on a single product or small range of products, or they could be reliant on a small key group of staff. The risks can be considered in different categories:

<b>Strategic risk</b>	Risk that business strategies (e.g. acquisitions/product launches) will fail.
<b>Product risk</b>	Risk of failure of new product launches/loss of interest in existing products.
<b>Commodity price risk</b>	Risk of a rise in commodity prices (e.g. oil).
<b>Product reputation risk</b>	Risk of change in product's reputation or image.
<b>Operational risk</b>	Risk that business operations may be inefficient or business processes may fail.
<b>Contractual inadequacy risk</b>	Risk that the terms of a contract do not fully cover a business against all potential outcomes.
<b>Fraud and employee malfeasance</b>	Considered separately later.



### More on business risks

Business risks for a company are risks arising from the nature of its business and operations. Some businesses are inherently more risky than others.

- **Strategic risks** are risks arising from the possible consequences of strategic decisions taken by the organisation. For example, one company might pursue a strategy of growth by acquisitions, whilst another might seek slower, organic growth. Growth by acquisition is likely to be much more high-risk than organic growth, although the potential returns might also be much higher. Strategic risks should be identified and assessed at senior management and board of director level.
- **Product risk** is the risk that customers will not buy new products (or services) provided by the organisation, or that the sales demand for current products and services will decline unexpectedly. A new product launched on to the market might fail to achieve the expected volume of sales, or the take-up could be much slower than expected. For example, the demand for 'third generation' (3G) mobile communications services was much slower to build up than expected by the mobile telephone service providers, due partly to the slower-than-expected development of suitable mobile phone handsets.

- **Commodity price risk.** Businesses might be exposed to risks from unexpected increases (or falls) in the price of a key commodity. Businesses providing commodities, such as oil companies and commodity farmers, are directly affected by price changes. Equally, companies that rely on the use of commodities could be exposed to risks from price changes. For example, airlines are exposed to the risk of increases in fuel prices, particularly when market demand for flights is weak (so increases in ticket prices for flights are not possible).
- **Product reputation risk.** Some companies rely heavily on brand image and product reputation, and an adverse event could put their reputation (and so future sales) at risk. Risk to a product's reputation could arise from adverse public attitudes to a product or from adverse publicity: this has been evident in Europe with widespread hostility to genetically-modified (GM) foods. There could also be a risk from changes in customer perceptions about the quality of a product. For example, if a car manufacturer announces that it is recalling all new models of a car to rectify a design defect, the reputation of the product and future sales could be affected.
- **Operational risk** refers to potential losses that might arise in business operations. It has been defined broadly as 'the risk of losses resulting from inadequate or failed internal processes, people and systems, or external events' (Basel Committee on Banking Supervision). Operational risks include risks of fraud or employee malfeasance, which are explained in more detail later. Organisations implement internal control systems to manage operational risks.
- **Contractual inadequacy risk** may arise where a business has negotiated contracts and other business transactions without adequate consideration of what may happen if things don't go according to plan. For example, a building company may have a fixed completion date for the construction of a house. If it is not completed on time, they may have to pay compensation to the house purchaser. Similarly, there is also a risk that the purchaser will not have the funds when payment is due. This risk may be mitigated by having terms in the contract setting out what rights the company will have in such circumstances. Clearly, if the building company does not consider either or both of these possibilities when agreeing to build the house, then there is an unidentified and unquantified risk of loss.



### Test your understanding 2

Which of the following would normally be classified as an operational risk?

Select ALL that apply

- A The risk that a new product will fail
- B The risk of competitors cutting costs by manufacturing overseas
- C The loss of an experienced supervisor
- D Raw materials being wasted during the production process due to untrained staff



### Test your understanding 3

Which of the following would normally be classified as a strategic risk?

- A Human error
- B Information technology failure
- C Fraud
- D Stricter health and safety legislation



### Test your understanding 4

Company Q assembles circuit boards for mobile telephones and relies on suppliers to manufacture one of their key components. This component contains a highly toxic, expensive chemical which is currently in scarce supply across the world.

Company Q has one main supplier of the component. This supplier is based in a developing country with low labour costs. The supplier has developed a great deal of expertise in handling the toxic chemical and keeping waste to a minimum. However, there have been allegations that rivers local to the supplier have been polluted with toxic waste from the chemical. There are also rumours that the supplier does not provide adequate safety equipment for staff working with the chemical. The supplier has informed Company Q that price rises may occur since safe storage of the chemical is becoming more expensive.

**Which of the following represent strategic risks to Company Q?**

Select ALL that apply.

- A Risk that the supplier's employees are injured through unsafe handling of toxic chemicals.
- B Risk that pollution from local rivers is proved to be the result of the supplier's processes and waste.
- C Risk that the supplier is unable to source adequate quantities of chemical.
- D Risk that the supplier's storage facilities become more expensive.
- E Risk that the developing country in which the supplier is based introduces a minimum wage.



## Economic risk

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This is the risk that changes in the economy might affect the business. These changes could be inflation, unemployment rates, international trade relations or fiscal policy decisions by government. Again, this risk is considered to be external to the business.



### The 'credit crunch'

In 2008 there was global banking crisis which then led to what has since been called a 'credit crunch' and, for some countries, recession. This section looks at the causes of the banking crisis and its knock-on effects.

#### **Contributory factor 1: US sub-prime mortgage lending**

In 2001 the US faced recession, due partly to the events of 9/11 and the Dot com bubble bursting, so the US government was keen to stimulate growth. As part of this, in 2003, the Federal Reserve responded by cutting interest rates to 1% – their lowest level for a long time.

Low interest rates encouraged people to buy a house backed by a mortgage, resulting in house prices rising due to the increased demand for housing. As house prices began to rise, mortgage companies relaxed their lending criteria and tried to capitalise on the booming property market. This boom in credit was also fuelled by US government pressure on lenders to grant mortgages to people who, under normal banking criteria, presented a very high risk of default. These were the so called 'sub-prime mortgages', with many borrowers taking out adjustable rate mortgages that were affordable for the first two years.

This 'sub-prime market' expanded very quickly and by 2005, one in five mortgages in the US were sub-prime. Banks felt protected because house prices were continuing to rise so if a borrower defaulted the bank would recover its loan.

In 2006 inflationary pressures in the US caused interest rates to rise to 4%. Normally 4% interest rates are not particularly high but, because many had taken out large mortgages, this increase made the mortgage payments unaffordable. Also many homeowners were coming to the end of their 'introductory offers' and faced much higher payments. This led to an increase in mortgage defaults.

As mortgage defaults increased the boom in house prices came to an end and house prices started falling. In some areas the problem was even worse as there had been a boom in the building of new homes, which occurred right up until 2007. It meant that demand fell as supply was increasing – causing prices to collapse. Banks were no longer able to recover their loans when borrowers defaulted. In many cases they only ended up with a fraction of the house value.

**Contributory factor 2: 'Collateralised debt obligations' or CDOs**

Normally if a borrower defaults it is the lending bank or building society that suffers the loss. As a result they are very diligent in verifying the credit worthiness of potential borrowers and whether they have the income and security to repay loans. However, in the US, mortgage lenders were able to sell on mortgage debt, in the form of CDOs, to other banks and financial institutions. This was a kind of insurance for the mortgage companies. It meant that other banks and financial institutions shared the risk of these sub-prime mortgages.

Using the income from their mortgage book as security, banks sold CDO bonds with a three-tier structure:

- (1) Tier 1 was "senior" or "investment grade" and supposed to be very low risk but with a low return.
- (2) Tier 2 was the "mezzanine tranche" and had medium risk and medium return
- (3) Tier 3 was the "equity tranche" and had highest risk and return.

As money was received on mortgages, it was used to pay the Tier 1 bond holders their interest first, then Tier 2 and finally Tier 3, so if borrowers defaulted, then Tier 3 holders would suffer first and so on, like a waterfall effect.

Unfortunately losses were so great that Tier 3 and Tier 2 and in some cases Tier 1 investors were affected. At the very least, the value of Tier 1 bonds fell due to the perceived risks.

**Contributory factor 3: Debt rating organisations**

The CDO bonds were credit-rated for risk, just like any other bond issues. Maybe because these sub-prime mortgage debts were bought by 'responsible' banks like Morgan Stanley and Lehman Brothers, or maybe because they didn't fully understand the CDO structures, risk agencies gave risky Tier 1 debt bundles AAA safety ratings. Normally AAA would denote extremely low risk investments.

This encouraged many banks and financial institutions to buy them, not realising how risky their financial position was. The trillions of dollars of sub-prime mortgages issued in the US had thus become distributed across the global markets, ending up as CDOs on the balance sheets of many banks around the world.

Many commentators have seen this factor as an example of regulatory failure within the financial system.



### **Contributory factor 4: Banks' financial structure**

Unlike most other commercial enterprises, banks are very highly geared with typically less than 10% of their asset value covered by equity. A drastic loss of asset value can soon wipe out a bank's equity account and it was this risk which led some banks to start selling their asset-backed securities on to the market.

However, the sellers in this restricted market could not find buyers; as a result, the values at which these "toxic assets" could be sold fell and many banks around the world found themselves in a position with negative equity.

### **Contributory factor 5: Credit default swaps**

As an alternative (or in addition) to using CDOs, the mortgage lenders could buy insurance on sub-prime debt through credit default swaps or CDSs.

For example, AIG wrote \$440 billion and Lehman Brothers more than \$700 billion-worth of CDSs. These were the first institutions to suffer when the level of defaults started to increase.

Warren Buffett called them "financial weapons of mass destruction".

### **Contributory factor 6: Risk-takers**

There is a school of thought that the risk-takers were taking risks they didn't understand. Some risks can be easily understood, however, others are far more complicated.

### **Implication 1: the collapse of major financial institutions**

Some very large financial institutions went bust and others got into serious trouble and needed to be rescued. For example,

- In September 2008 Lehman Brothers went bust. This was the biggest bankruptcy in corporate history. It was 10 times the size of Enron and the tipping point into the global crash, provoking panic in an already battered financial system, freezing short-term lending, and marking the start of the liquidity crisis.
- Also in September 2008 the US government put together a bailout package for AIG. The initial loan was for \$85bn but the total value of this package has been estimated at between 150 and 182 billion dollars.
- In the UK the Bank of England lent Northern Rock £27 billion after its collapse in 2007.

**Implication 2: the credit crunch**

Banks usually rely on lending to each other to conduct everyday business. But, after the first wave of credit losses, banks could no longer raise sufficient finance.

For example, in the UK, Northern Rock was particularly exposed to money markets. It had relied on borrowing money on the money markets to fund its daily business. In 2007, it simply couldn't raise enough money on the financial markets and eventually had to be nationalised by the UK government.

In addition to bad debts, the other problem was one of confidence. Because many banks had lost money and had a deterioration in their balance sheets, they couldn't afford to lend to other banks. Even banks that had stayed free of the problem began to doubt the credit worthiness of other banks and, as a result, became reluctant to lend on the interbank market.

The knock on effect was that banks became reluctant to lend to anyone, causing a shortage of liquidity in money markets. This made it difficult for firms to borrow to finance expansion plans as well as hitting the housing market.

Many companies use short-term finance rather than long-term. For example, rather than borrowing for, say, 10 years a company might take out a two year loan, with a view to taking out another two year loan to replace the first, and so on. The main reason for using this system of "revolving credit" is that it should be cheaper – shorter-term interest rates are generally lower than longer-term. The credit crunch meant that these firms could not refinance their loans causing major problems.

**Implication 3: government intervention**

Many governments felt compelled to intervene, not just to prop up major institutions (e.g. Northern Rock and AIG mentioned above) but also to inject funds into the money markets to stimulate liquidity.

Efforts to save major institutions involved a mixture of loans, guarantees and the purchase of equity.

Usually, central banks try to raise the amount of lending and activity in the economy indirectly, by cutting interest rates. Lower interest rates encourage people to spend, not save. But when interest rates can go no lower, a central bank's only option is to pump money into the economy directly. That is quantitative easing (QE). The way the central bank does this is by buying assets – usually financial assets such as government and corporate bonds – using money it has simply created out of thin air. The institutions selling those assets (either commercial banks or other financial businesses such as insurance companies) will then have "new" money in their accounts, which then boosts the money supply.

In February 2010 the Bank of England announced that the UK quantitative easing programme, that had cost £200bn, was to be put on hold.

The end result was that many governments found themselves with huge levels of debt with the corresponding need to repay high levels of interest as well as repay the debt.

### **Implication 4: recession and "austerity measures"**

The events described above resulted in a recession in many countries. Despite the falling tax revenues that accompany this, some governments would normally try to increase government spending as one measure to boost aggregate demand to stimulate the economy.

However, the high levels of national debt have resulted in governments doing the opposite and making major cuts in public spending.

### **Implication 5: problems refinancing government debt**

In 2010/2011 some countries tried to refinance national debt by issuing bonds:

- A problem facing the Spanish government at the end of 2010/2011 was the need to raise new borrowing as other government debt reached maturity. Spain successfully sold new bonds totalling nearly €3 billion on 12/1/11 in what was seen as a major test of Europe's chances of containing the debt crisis gripping parts of the region. This was in addition to the Spanish government cutting spending by tens of billions of euros, including cuts in public sector salaries, public investment and social spending, along with tax hikes and a pension freeze.
- The problem of refinancing is more severe for countries whose national debt has a short average redemption period (Greece is about 4 yrs) but much less of a problem where the debt is long dated (e.g. the UK where the average maturity is about 14 yrs).

For others they needed help from other countries and the International Monetary Fund (IMF).

- Greece received a €110 billion rescue package in May 2010.
- At the end of 2010 Ireland received a bailout from the EU, the UK and the IMF. The total cost is still being debated but could be as high as €85 billion.

## **Financial risk**

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Financial risk is a major risk that affects businesses and this risk is studied in much more depth in F3, an awareness of financial risk is sufficient for P3.

Financial risk is the risk of a change in a financial condition such as an exchange rate, interest rate, credit rating of a customer, or price of a good.

The main types of financial risk are

<b>Credit risk</b>	Risk of non-payment by customers.
<b>Political risk</b>	Risk arising from actions taken by a government that affect financial aspects of the business.
<b>Currency risk</b>	Risk of fluctuations in the exchange rate.
<b>Interest rate risk</b>	Risk that interest rates change.
<b>Gearing risk</b>	Risk in the way a business is financed (debt vs. equity) (sometimes this is considered part of interest rate risk).



### More on financial risks

Financial risks relate to the possibility of changes in financial conditions and circumstances. There are several types of financial risk.

- **Credit risk.** Credit risk is the possibility of losses due to non-payment by debtors. The exposure of a company to credit risks depends on factors such as:
  - the total volume of credit sales
  - the organisation's credit policy
  - credit terms offered (credit limits for individual customers and the time allowed to pay)
  - the credit risk 'quality' of customers: some types of customer are a greater credit risk than others
  - credit vetting and assessment procedures
  - debt collection procedures.
- **Currency risk.** Currency risk, or foreign exchange risk, arises from the possibility of movements in foreign exchange rates, and the value of one currency in relation to another.
- **Interest rate risk.** Interest rate risk is the risk of unexpected gains or losses arising as a consequence of a rise or fall in interest rates. Exposures to interest rate risk arise from:
  - borrowing
  - investing (to earn interest) or depositing cash.
- **Gearing risk.** Gearing risk for non-bank companies is the risk arising from exposures to high financial gearing and large amounts of borrowing.

### Technology risk

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Technology risk is the risk that technology changes will occur that either present new opportunities to businesses, or on the down-side make their existing processes obsolete or inefficient.



### More on technology risk

Technology risk arises from the possibility that technological change will occur. Like many other categories of risk, technology risk is a two-way risk, and technological change creates both threats and opportunities for organisations.

There are risks in failing to respond to new technology, but there can also be risks in adopting new technology. An example of over-investing in new technology was the so-called 'dot.com boom' in the late 1990s and early 2000s. For a time, there was speculation that Internet-based companies would take over the markets of established 'bricks and mortar' companies.

To varying degrees, established companies invested in Internet technology, partly as a protective measure and partly in order to speculate on the growth of Internet commerce. (Whereas most established companies survived the collapse of the 'dot.com bubble' in 2001 – 2002, many 'dot.com' companies suffered financial collapse.)

### Cyber risk

Cyber risk is a focus area for organisations now. It is the risk of financial loss, disruption, or damage to an organisation caused by issues with the information technology systems they use.

Cyber risk and how to deal with it is covered in detail in chapters 8, 9 and 10.

### Environmental risk

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Environmental risk is the risk that arises from changes in the environment such as climate change or natural disasters. Some businesses may perceive this risk to be low, but for others, for example insurance companies, it can be more significant. Insurance companies have to take environmental risks into account when deciding policy premiums, and unusual environmental circumstances can severely alter the results of insurance businesses.



### More on environmental risk

Environmental risk arises from changes to the environment:

- over which an organisation has no direct control, such as global warming
- for which the organisation might be responsible, such as oil spillages and other pollution.

To ensure their long-term survival, some companies should consider the sustainability of their businesses. When raw materials are consumed, consideration should be given to ensuring future supplies of the raw material. For example, companies that consume wood and paper should perhaps show concern for tree planting programmes, and deep-sea fishing businesses should consider the preservation of fishing stocks.



## The Japanese tsunami

The Japanese tsunami of 2011 illustrates very well the fact that some risks can be understood and others are far more complicated.

The Japanese have some of the best flood defence systems in the world, being on the edge of a plate system and regularly experiencing tremors. However, even the best defence system is built with a risk factor included – using probabilities and modelling by water engineers.

Whilst it is not possible to prevent a tsunami, in some particularly tsunami-prone countries some measures have been taken to reduce the damage caused on shore. Japan has implemented an extensive programme of building tsunami walls of up to 4.5 m (13.5 ft) high in front of populated coastal areas. Other localities have built floodgates and channels to redirect the water from incoming tsunami. However, their effectiveness has been questioned, as tsunami are often higher than the barriers. For instance, the Okushiri, Hokkaidō tsunami which struck Okushiri Island of Hokkaidō within two to five minutes of the earthquake on July 12, 1993 created waves as much as 30 m (100 ft) tall – as high as a 10-story building. The port town of Aomae was completely surrounded by a tsunami wall, but the waves washed right over the wall and destroyed all the wood-framed structures in the area. The wall may have succeeded in slowing down and moderating the height of the tsunami, but it did not prevent major destruction and loss of life.

On 11 March, 2011 a 10-meter tsunami slammed into the Japanese city of Sendai killing hundreds and sweeping away everything in its wake. The wall of water was triggered by the country's biggest ever earthquake. Cars, lorries and boats bobbed like toys as a wave of debris spread over huge swathes of north-eastern Japan.

An after effect of the tsunami was the malfunctioning of a nuclear plant in Fukushima, north of Tokyo, where the reactor's cooling system overheated. Other nuclear power plants and oil refineries had been shut down following the 8.9 magnitude quake. Engineers opted to cover the plant in concrete, the technique used at Chernobyl 25 years ago, however this failed and experts have since tried to plug the leak using an absorbent polymer. An exclusion zone of 30 kilometres has been advised by the Japanese government, which will be long-term. It is thought the crack in reactor number two is one source of leaks that have caused radiation levels in the sea to rise to more than 4000 times the legal limit. Food products and water supplies have been affected.

Scientists in Europe are convinced this scenario could happen closer to home. They have been working on an early warning system for countries surrounding the Mediterranean Sea. The region along the Turkish coast in the Eastern Mediterranean is considered the most vulnerable.

In these scenarios, engineers have tried to learn from the past and estimate what might happen in the future. However, with the best will in the world it is sometimes impossible to ascertain all the implications of a single event, such as a tsunami.

### Fraud risk

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Fraud risk (a type of operational business risk) is the vulnerability of an organisation to fraud. Some businesses are more vulnerable than others to fraud and as a result have to have stronger controls over fraud. Fraud risk is a risk that is considered controllable by most businesses.



#### More on fraud risk

Fraud risk is the vulnerability of an organisation to fraud. The size of fraud risk for any organisation is a factor of:

- the probability of fraud occurring, and
- the size of the losses if fraud does occur.

For example, a bank will be subject to much higher fraud risk than a property investment company due to the desirability of money and the potential value that theft could achieve; it is unlikely that someone will steal a building from an investment company.

Fraud risk should be managed, by:

- fraud prevention: ensuring that the opportunities to commit fraud are minimised
- fraud detection and deterrence: detection measures are designed to identify fraud after it has occurred. If employees fear that the risk of detection is high, they will be deterred from trying to commit fraud.

The management of fraud risk should be an element of an organisation's internal control system.

### Corporate reputation risk

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Reputation risk is for many organisations a down-side risk as the better the reputation of the business the more risk there is of losing that reputation. A good reputation can be very quickly eroded if companies suffer adverse media comments or are perceived to be untrustworthy.

This could arise from:

- environmental performance
- social performance
- health & safety performance.





### More on corporate reputation risk

Many large organisations are aware of the potential damage to their business from events affecting their 'reputation' in the opinion of the general public or more specific groups (such as existing customers or suppliers).

Some organisations succeed in being perceived as 'environmental-friendly', and use public relations and advertising to promote this image.

For many organisations, however, reputation risk is a down-side risk. The risk can be particularly significant for companies that sell products or services to consumer markets. There have been cases where a company's reputation has been significantly affected by:

- employing child labour in under-developed countries or operating 'sweat shops' in which employees work long hours in poor conditions for low pay
- causing environmental damage and pollution
- public suspicions about the damage to health from using the company's products
- investing heavily in countries with an unpopular or tyrannical government
- involvement in business 'scandals' such as mis-selling products
- management announcements about the quality of the product a company produces.

Managing reputation risk can be complicated by the fact that many of these factors lie outside the control of the organisation. For example, many companies outsource production to third parties who operate in countries where labour costs are cheaper. Such arrangements can work well, although major multinational corporations have had their reputations tarnished by being associated with third parties who used dubious employment or environmental policies in order to keep costs down.

Reputational risk is covered in detail in Chapter 4.



### Test your understanding 5

During their work on Worldcom and Enron, Arthur Anderson (chartered accountants and registered auditors) failed to identify serious irregularities in these companies. This led to their demise.

**This was mainly due to which ONE of the following?**

- A Business risk
- B Political risk
- C Environmental risk
- D Reputation risk



## Employee malfeasance risk

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Malfeasance means doing wrong or committing an offence. Organisations might be exposed to risks of actions by employees that result in an offence or crime (other than fraud). This, like fraud risk, is a type of operational business risk.



### More on employee malfeasance

Examples of employee malfeasance are:

- deliberately making false representations about a product or service in order to win a customer order, exposing the organisation to the risk of compensation claims for mis-selling
- committing a criminal offence by failing to comply with statutory requirements, such as taking proper measures for the safety and protection of employees or customers.

Risks from illegal activities by employees should be controlled by suitable internal controls, to ensure that employees comply with established policies and procedures.

## Risks in international operations

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International businesses are subject to all the risks above but also have to consider extra risk factors, which could be due to the following:

<b>Culture</b>	A UK business may fail in a venture overseas because it does not adapt to the overseas culture. Good knowledge of local culture can, however, give companies an advantage.
<b>Litigation</b>	There is a greater litigation risk in overseas operations as the parent company management may not understand the legislation well and are therefore more at risk of breaching it.
<b>Credit</b>	There is often a greater difficulty in controlling credit risk on overseas sales. Chasing debts is more difficult and expensive.
<b>Items in transit</b>	There is a greater risk of losses or damage in transit if companies are transporting goods great distances
<b>Financial risks</b>	These include foreign exchange risks, and interest rate risk and are considered in more detail in F3.



### More on risks in international operations

Companies that engage in international operations could face substantial risks in addition to country risk.

- There could be significant **cultural differences** between the various countries in which the company operates. There could be a risk that products, services and business practices that are acceptable in one country will be unacceptable in another. Failure to understand a national or local culture could mean that a company will fail to succeed in establishing its business.
- A lack of understanding of local legislation could expose an organisation to **litigation risk**. When legal action is initiated in a different country, a company has to appoint lawyers to represent them and rely on their advice on the appropriate and necessary steps to take.
- When a company exports goods to other countries, there is a **risk that the goods will be held up or lost in transit**, and the loss might not always be covered by insurance. For example, goods might be held up in customs due to inadequate import documentation.
- When a customer in another country buys goods on credit, the exporter is exposed to credit risk. However, the **credit risk is often greater**, because in the event of non-payment by the customer, legal action might be more difficult to arrange (and more expensive) and the prospects of obtaining payment might be much lower.



### Test your understanding 6

A company has performed a SWOT analysis and has identified two main threats:

- new legislation covering one of their products; and
- the bank asking for their loan to be repaid immediately since the company failed to pay their most recent instalment after the interest rate rose.

**Which categories of risk are they best described by?**

Select ALL that apply

- A Financial risk
- B Political risk
- C Reputation risk
- D Economic risk



**Test your understanding 7**

Risk identification and management are the responsibility of:

Select ALL that apply

- A The Board
- B The risk manager
- C The audit committee
- D Non-executive directors



**Test your understanding 8**

Miney plc ("Miney") is a global company – incorporated in the USA – that extracts valuable minerals from the earth.

Mining is a risky business with a death toll averaging 100 deaths per annum in the USA alone. Miney has recently had a coal mine collapse killing two men and trapping four others for three days. The accident made the national news each day and Miney became a household name. Miney is financed purely by equity and has a large cash balance and no debt. It has come to the attention of the Board that the future price of coal is forecast to fall, as renewable energy sources becomes more reliable.

**Which THREE of the following risks would you identify as most critical for Miney to assess?**

- A Financial risk
- B Project risk
- C Reputation risk
- D Production risk
- E Health and safety risk
- F Commodity price risk

**Test your understanding 9**

AW company is expanding geographically and has just appointed Miss X as divisional manager of their new branch in Country B. AW has never operated in Country B before but has a history of successful divisional expansion in other countries.

**Which of the following could help Miss X minimise the risks facing AW Company relating to cultural and legal differences between Country B and AW's current working practices.**

Select ALL that apply.

- A Recruitment of local staff.
- B Employing a local firm of solicitors to advise Miss X on local legislation and working practices.
- C Replication of previous divisional expansion plans.
- D A marketing campaign to introduce Country B to AW Company.
- E Secondment of staff from within AW who are experienced in setting up new divisions.

**Test your understanding 10**

Historically, X has done business with several non-democratic or repressive governments.

**In the light of this, which TWO of the following risks should the directors of X be most concerned with?**

- A Technology risk.
- B Corporate reputation risk.
- C Economic risk.
- D Fraud risk
- E Business risk
- F Financial risk.



### Test your understanding 11

You are a management accountant working on proposals to build a dam in a developing country in order to generate hydro-electric power and enable many homes to have electricity for the first time. The dam is being financed by international aid, the total amount of which is currently uncertain.

You have been made aware of a pressure group which disagrees with the proposals since construction of the dam will damage the local eco system. The pressure group have vowed to disrupt the project directly through protests.

You are also aware of negative media coverage of the dam which accuses your company of making excessive profits from the project. In addition, the bank financing the initial stages of the project has contacted the directors to ask that its involvement in the project not be publicised as it believes it will damage its reputation.

Your company's directors have asked you to present a briefing on the project at their next board meeting.

**Which of the following should you include as risks to the project's progression in your briefing to the board?**

Select ALL that apply.

- A Risk the international aid is not received or inadequate to fund the project.
- B Risk of negative media coverage for the company.
- C Threats from the pressure group to disrupt the project directly.
- D Risks that the local eco system will be damaged.
- E Threat that the bank will pull out due to risks to their reputation.



### Test your understanding 12 – ZXC (Case Study)

#### Scenario

The ZXC company manufactures aircraft. The company is based in Europe and currently produces a range of four different aircraft. ZXC's aircraft are reliable with low maintenance costs, giving ZXC a good reputation, both to airlines who purchase from ZXC and to airlines' customers who fly in the aircraft.

#### Trigger

ZXC is currently developing the 'next generation' of passenger aircraft, with the selling name of the ZXLiner. New developments in ZXLiner include the following:

- Two decks along the entire aircraft (not just part as in the Boeing 747 series) enabling faster loading and unloading of passengers from both decks at the same time. However, this will mean that airport gates must be improved to facilitate dual loading at considerable expense.

- 20% decrease in fuel requirements and falls in noise and pollution levels.
- Use of new alloys to decrease maintenance costs, increase safety and specifically the use of Zitnim (a new lightweight conducting alloy) rather than standard wiring to enable the 'fly-by-wire' features of the aircraft. Zitnim only has one supplier worldwide.

Many component suppliers are based in Europe although ZXC does obtain about 25% of the sub-contracted components from companies in the USA. ZXC also maintains a significant R&D department working on the ZXLiner and other new products such as alternative environmentally friendly fuel for aircraft.

Although the ZXLiner is yet to fly or be granted airworthiness certificates, ZXC does have orders for 25 aircraft from the HTS company. However, on current testing schedules the ZXLiner will be delivered late. ZXC currently has about €4 billion of loans from various banks and last year made a loss of €2.3 billion.

### Task

Write a report to the directors of ZXC identifying the sources of risk that could affect ZXC, and evaluating the impact of the risk on the company.

**(30 minutes)**



## Test your understanding 13 – Smart meters (Case study)

### Scenario

E is an electricity company that has a large number of customers. All customers' homes have electricity meters with mechanical dials that turn to record the consumption of electricity. Most homes have their meters indoors. Customers have to provide E with regular readings from their meters in order to ensure that they are billed properly for their electricity consumption. Customers can log into their accounts online to input their readings or they can telephone E's call centre to give an operator a reading.

E has a policy that customers must allow an inspector to read their electricity meters at least once per year. This inspection has two purposes. The first is to ensure that the customer has not been consistently understating the figures in order to underpay for their electricity and the second is to ensure that the meter has not been tampered with in order to reduce the readings according to the dials. The meters are designed so that they are difficult to dismantle without causing obvious damage and they also have a seal that is made out of soft metal that will be broken if the meter is ever opened.

E's inspectors generally visit all the homes within a particular area in the course of an evening. As most customers are at home then it is an efficient way to conduct the annual checks. If a customer is not at home the inspector leaves a card to request an opportunity to inspect the meter. If the customer does not respond to the card within seven days E will send up to four weekly reminders. Almost all customers comply with these requests but a very small minority do not respond and E can apply to the courts for the right to force entry when that happens.

**Trigger**

E is considering the replacement of its electricity meters with new "smart meters" which will be located in customers' homes. These will record consumption electronically rather than mechanically. The information will be stored on the meter. The same wires that carry electricity can be used to transmit data to and from the meters and E's IT system will send coded messages to meters to request readings as and when required. It is envisaged that these electronic readings will normally be once every three months, but there is very little to prevent E from reading some meters far more often.

Each meter will be fitted with a chip that will transmit a warning if it is tampered with either physically or electronically. The memory on the meters is not affected by power cuts and the meters can restart themselves without losing any data if a power cut occurs.

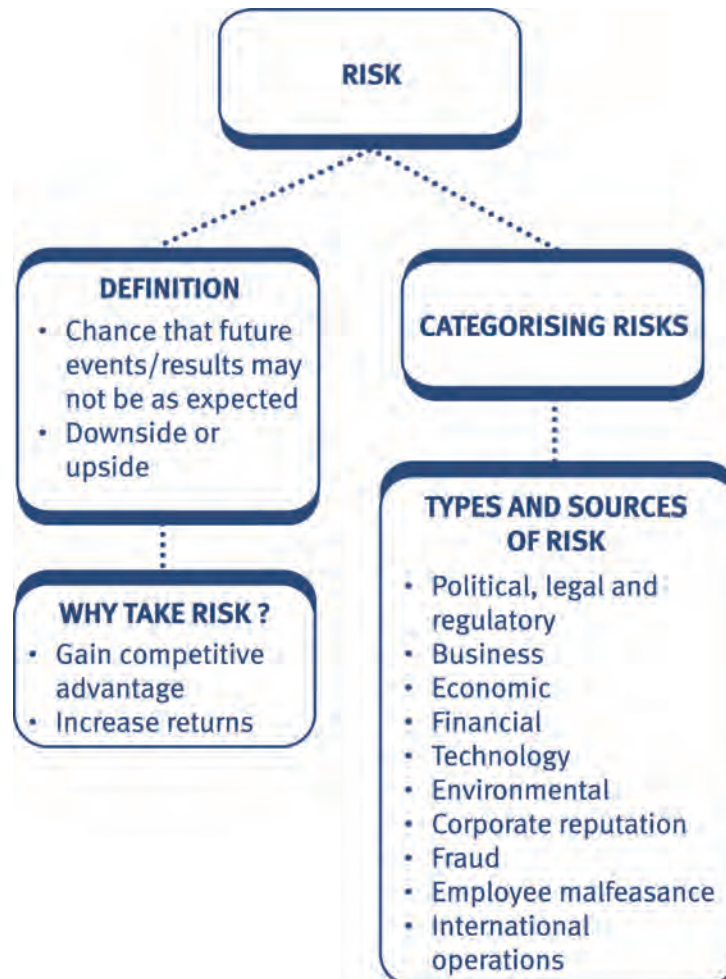
**Task**

Write a report to the Board of E which:

- (a) Discusses the potential benefits for E that may come about from the introduction of smart meters; and
- (b) Evaluates FOUR risks that might arise from the introduction of smart meters and suggests how each risk might be dealt with.

**(45 minutes)**

## 4 Chapter summary





## Test your understanding answers



### Test your understanding 1

The correct answer is D – Per CIMA's risk management cycle, a risk management group should be formed, risks identified, understand their scale, develop a strategy, implement and allocate responsibility, control and review.



### Test your understanding 2

The correct answers are C and D – A and B are strategic level risks.



### Test your understanding 3

The correct answer is D – A, B and C are operational risks.



### Test your understanding 4

#### A, B and C

- Option A: If publicised, poor treatment of employees at Company Q's main supplier could greatly increase reputation risk to Company Q. This may influence Q's performance over a long period of time since it may lose support from customers, shareholders and employees. The fact that Q Company may not be able to meet its strategic objectives as a result makes this a strategic risk.
- Option B: See explanation above, Company Q will be associated with the pollution and held responsible for it.
- Option C: Would almost certainly compromise Company Q's ability to meet its' strategic objectives.
- Option D: Would not affect Company Q's performance over a long period of time. It may lead to a reduction in profit margins but only if the supplier successfully negotiates a price increase.
- Option E: See explanation for Option D above.



### Test your understanding 5

The correct answer is D – Arthur Anderson consequently lost their reputation as being the number one accountancy firm in the world and consequently many of their customers.



### Test your understanding 6

The correct answers are A and B – New legislation is covered within political risk. The repayment of the loan is covered within financial risk.



### Test your understanding 7

The correct answers are A, B, C and D – All staff in an organisation are responsible for risk.



### Test your understanding 8

#### C, E and F

- A Financial risk – low risk due to lack of debt finance
- B Project risk – large one off projects are not a major aspect of the company's business model
- C Reputation risk – high due to accident
- D Production risk – despite the accidents, there is not a high risk of production shortages
- E Health and safety risk – high due to accident and potential for injury in the industry
- F Commodity price risk – high due to threat from renewable sources



### Test your understanding 9

#### A and B only

- Options A and B will help Miss X understand local practices.
- Option C – Previous divisional expansion plans are likely to be culturally appropriate to other countries and not Country B.
- Option D – a marketing campaign may cause more cultural issues.
- Option E – see explanation for option 3 above.



### Test your understanding 10

#### B and D

- X should be concerned with their reputation but also the risk of fraud and corruption when dealing with non-democratic governments is greater (option D).



### Test your understanding 11

#### A, C and E

- Options A, C and E will disrupt or halt the project directly.
- Option B is a risk to the company and not the project.
- Option D is not a risk to the project's progression although it may end up causing reputation risk for the company.



### Test your understanding 12 – ZXC (Case Study)

**To:** The directors of ZXC

**From:** A.N. Accountant

**Date:** Today

**Subject:** Sources and evaluation of risk at ZXC

This report covers the identification of risk at ZXC and evaluates each risk in turn. Recommendations for risk reduction are not given at this time.

#### Product/market risk

This is the risk that customers will not buy new products (or services) provided by the organisation, or that the sales demand for current products and services will decline unexpectedly.

For ZXC, there is the risk that demand for the new aircraft will be less than expected, either due to customers purchasing the rival airplane or because airports will not be adapted to take the new ZXLiner.

#### Commodity price risk

Businesses might be exposed to risks from unexpected increases (or falls) in the price of a key commodity.

Part of the control systems of the ZXLiner rely on the availability of the new lightweight conducting alloy Zitnim. As there is only one supplier of this alloy, then there is the danger of the monopolist increasing the price or even denying supply. Increase in price would increase the overall cost of the (already expensive) ZXLiner, while denial of supply would further delay delivery of the aircraft.

#### Product reputation risk

Some companies rely heavily on brand image and product reputation, and an adverse event could put its reputation (and so future sales) at risk.

While the reputation of ZXC appears good at present, reputation will suffer if the ZXLiner is delayed significantly or it does not perform well in test flights (which have still to be arranged). Airline customers, and also their customers (travellers) are unlikely

**Currency risk**

Currency risk, or foreign exchange risk, arises from the possibility of movements in foreign exchange rates, and the value of one currency in relation to another.

ZXC is currently based in Europe although it obtains a significant number of parts from the USA. If the €/£ exchange rate became worse, then the cost of imported goods for ZXC (and all other companies) would increase. At present, the relatively weak US\$ is in ZXC's favour and so this risk is currently negligible.

**Interest rate risk**

Interest rate risk is the risk of unexpected gains or losses arising as a consequence of a rise or fall in interest rates. Exposures to interest rate risk arise from borrowing and investing.

As ZXC do have significant bank loans, the company is very exposed to this risk.

**Gearing risk**

Gearing risk for non-bank companies is the risk arising from exposures to high financial gearing and large amounts of borrowing.

Again, ZXC has significant bank loans. This increases the amount of interest that must be repaid each year.

**Political risk**

Political risk depends to a large extent on the political stability in the countries in which an organisation operates, the political institutions within that country and the government's attitude towards protectionism.

As ZXC operates in a politically stable country this risk is negligible.

**Legal risk or litigation risk**

The risk arises from the possibility of legal action being taken against an organisation.

At present this risk does not appear to be a threat for ZXC. However, if the ZXLiner is delayed any further there is a risk for breach of contract for late delivery to the HTS company.

**Regulatory risk**

This is the possibility that regulations will affect the way an organisation has to operate.

In terms of aircraft, regulation generally affects noise and pollution levels. As the ZXLiner is designed to have lower noise and pollution levels than existing aircraft then this risk does not appear to be a threat to ZXC.

### **Technology risk**

Technology risk arises from the possibility that technological change will occur or that new technology will not work.

Given that ZXC is effectively producing a new product (the ZXLiner) that has not actually been tested yet, there is some technology risk. At worst, the ZXLiner may not fly at all or not obtain the necessary flying certificates.

### **Economic risk**

This risk refers to the risks facing organisations from changes in economic conditions, such as economic growth or recession, government spending policy and taxation policy, unemployment levels and international trading conditions.

Demand for air travel is forecast to increase for the foreseeable future – this will lead to a demand for aircraft which ZXC will benefit from. The risk of product failure is more significant than economic risk.

### **Environmental risk**

This risk arises both from changes to the environment over which an organisation has no direct control, such as global warming, and from those for which the organisation might be responsible, such as oil spillages and other pollution.

ZXC is subject to this risk – and there is significant debate concerning the impact of air travel on global warming. At the extreme, there is a threat that air travel could be banned, or made very expensive by international taxation agreements, although this appears unlikely at present.

### **Conclusion**

ZXC will suffer from many risks which will impact on the company. The likelihood and impact of each varies, by risk and over time. ZXC should implement reduction strategies where possible.



### Test your understanding 13 – Smart meters (Case study)

**To:** The Board of E  
**From:** A.N. Accountant  
**Date:** Today  
**Subject:** Smart meters and risk

#### Introduction

This report discusses the benefits of introducing Smart Meters at E, and then evaluates four risks arising from this action. Recommendations are then made to reduce the risks identified.

#### (a) The introduction of Smart Meters

Smart meters will offer the potential to dramatically reduce operating expenses. E will not require meter inspectors to visit customers' homes. There will be far fewer transactions involving call centre staff and so numbers can be reduced there too.

The new meters may reduce customer fraud and so enhance revenues. The fact that they are electronic and not mechanical will make it far harder to tamper with readings.

E will be able to gather a great deal of information about individual customers. At present, E can tell how much electricity is being drawn from the grid, but it cannot identify the specific customers who are using it. The new meters will make it possible to identify customers whose demand changes in response to, say, a major sporting event. That may make it easier for E to predict demand in advance of such events and so plan more easily.

E may also be able to gather valuable marketing information. For example, some customers will have larger increases in consumption when the weather is cold. E could target such customers with offers of alternative pricing plans or discounts on home insulation.

#### (b) Risks

##### Customer fraud

If customers learn how to interfere with the meters then E may lose significant amounts of revenue. The new meters may be more difficult to manipulate, but history suggests that electronic safeguards can be defeated. For example, mobile phones can be unlocked and DVDs can be pirated despite safeguards.

E could compare patterns of energy consumption within neighbourhoods and could identify customers whose readings seem low. Those customers' meters could be inspected for any modification. E should publicise any criminal prosecutions as a deterrent to other customers.

### **Installation**

The installation of these new meters will be a significant undertaking. E will have to arrange access to every customer's home in order to fit the new meters. The logistics of this will be complicated because of customers' work patterns and availability because of work and so on. The old system will have to operate in parallel with the new while this work is being undertaken and so staff will be stretched.

E may offer discounts or rebates to customers who offer access at convenient times. The discounts should be self-financing if they are funded out of the cost savings of managing a customer's account once the smart meter has been installed.

### **IT issues**

It will be difficult for E to fully test this system before installation. There will be large numbers of smart meters in the system and they will be communicating over long distances. There could be unforeseen problems with data being corrupted or lost. If that happens then the original meters will have been removed and there will be no effective way to put the system back.

It would be ideal if E could select a system that has already been used successfully by another electricity company. It would be preferable to apply a proven system even if there are more up to date versions of the technology that might offer enhancements.

### **Financial cost**

There will have to be a significant investment in this new system and the anticipated benefits may not be realised. The shareholders and other stakeholders may be concerned that E is taking a reckless risk by making a substantial investment in a new technology. An adverse outcome could mean lower profits or higher prices for consumers.

E could possibly transfer some of the risk by paying a third party to design and implement the new system. The contract could specify penalties for any shortcomings in the operation of the new system.

### **Conclusions**

E would appear to benefit from the introduction of Smart Meters. However, several risks may arise with their introduction. These risks can be reduced, in part, by the measures suggested in this report.