BUSINESS VALUE, GOVERNANCE AND RISK

PROFESSIONAL PROGRAMME

2018-19 EDITION
Singapore CA Qualification

Business Value, Governance and Risk
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The Singapore Accountancy Commission

On 1 April 2013, the Singapore Accountancy Commission (SAC) was formally established as a statutory body of the Singapore government. It was tasked to achieve a number of far-reaching objectives, spelled out by the ten recommendations in the Committee to Develop the Accountancy Sector report. One recommendation was the launch of a globally recognised qualification, Chartered Accountant of Singapore, also known as CA (Singapore).

The Singapore CA Qualification (formerly known as the Singapore QP) is one of the key initiatives in the SAC's drive to transform Singapore into a leading global accountancy hub for the Asia-Pacific region by 2020.

Designed to maximise the opportunities for those seeking global recognition and international portability, the Singapore CA Qualification is based on programmes offered by leading professional accountancy bodies in established jurisdictions such as Australia, Hong Kong, New Zealand and the United Kingdom.

Lending further distinction to the Singapore CA Qualification is the incorporation of professional accountancy requirements of the Asia Pacific region, taking into account the diverse socio-economic and regulatory profiles of countries in the region. The Singapore CA Qualification also meets international education standards issued by the International Accounting Education Standards Board of the International Federation of Accountants.

About the Institute of Singapore Chartered Accountants

The Institute of Singapore Chartered Accountants (ISCA) is the national accountancy body of Singapore. ISCA’s vision is to be a globally recognised professional accountancy body, bringing value to our members, the profession and wider community. There are over 32,000 ISCA members making their stride in businesses across industries in Singapore and around the world.

Established in 1963, ISCA is an advocate of the interests of the profession. Possessing a Global Mindset, with Asian Insights, ISCA leverages its regional expertise, knowledge, and networks with diverse stakeholders to contribute towards Singapore’s transformation into a global accountancy hub.

ISCA is the Administrator of the Singapore CA Qualification and the Designated Entity to confer the Chartered Accountant of Singapore - CA (Singapore) - designation.

ISCA is a member of Chartered Accountants Worldwide (CAW). CAW brings together 12 chartered accountancy bodies connecting and representing the interests of over 1.7 million members and students globally.

For more information, visit www.isca.org.sg.
**Introduction**

This is the fifth edition of the Business Value, Governance and Risk Textbook of the Singapore CA Qualification.

The Singapore CA Qualification is a post graduate accountancy qualification programme with three main components:

- **Academic Base**
- **Professional Programme**
- **Practical Experience**

The Professional Programme aims to equip Candidates with the knowledge, skills and professional values that are required of a Chartered Accountant of Singapore. It is a self-study programme that offers flexibility and learning support to suit the individual study and working needs of each Candidate. The Ethics and Professionalism module is a pre-requisite for all the technical modules. The technical modules may be attempted in any sequence, and only upon completion of the Ethics and Professionalism module and passing all four technical modules will a Candidate be eligible for the Integrative Business Solutions Module. Together, the following modules make up the entirety of the Professional Programme:

- **Ethics and Professionalism**
- **Taxation**
- **Financial Reporting**
- **Assurance**
- **Business Value, Governance and Risk**
- **Integrative Business Solutions**

**Recommended Progression**

The Ethics and Professionalism module must be completed before enrolment in any technical module. There is no other pre-requisite in the Professional Programme for this module.

**Module Assessment**

Each technical module in the Singapore CA Qualification is assessed by way of a written end-of-module examination that accounts for 100% of a Candidate's final grade. For more information, please refer to the Candidate Handbook on the Singapore CA Qualification website: www.SingaporeCAQualification.com

**Module Objective**

Upon completion of the Business Value, Governance and Risk module, Candidates will be able to demonstrate a sound understanding of the basis upon which corporate value is created, maintained sustainably (eg sound investment decisions) and protected (eg by avoidance of excessive concentration of power and lack of scrutiny of management). Candidates will be able to assess how governance arrangements may prevent long-term dysfunctional behaviour. The module addresses risk management as a key factor in governance and strategy. It develops skills from previous studies in asset valuation in the context of wider considerations of capital investment appraisal, including strategic investment decisions, taking into account underlying financial risk management concepts for effective and responsible decision making.

**Cognitive Levels**

This document includes learning outcomes which Candidates are expected to achieve. Each learning outcome is identified with a cognitive level ranging from 1 to 3. The cognitive levels are described below:
Cognitive level 1
An ability to communicate sound knowledge and insight in relation to emerging trends, current issues, and regulatory changes, with some practical application.

Cognitive level 2
An ability to analyse and apply knowledge to moderately complex scenarios that a Candidate would be likely to encounter in the workplace to derive the best possible outcome.

Cognitive level 3
An ability to demonstrate an elevated level of application of knowledge, as well as synthesise and evaluate information in more complex scenarios in order to arrive at value-added solutions.

The cognitive levels give an indication of the intellectual depth which Candidates are expected to achieve.

The technical modules in the Professional Programme are designed at post graduate level and build on knowledge, skills and values achieved during the prior tertiary studies. The technical modules are designed to develop higher order skills of application, analysis, synthesis and evaluation. For this reason, there are very few learning outcomes with cognitive level 1.
## Module Syllabus

### Learning Outcomes

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<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
<th>Chapter where covered</th>
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<tbody>
<tr>
<td><strong>ENHANCING BUSINESS VALUE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing Business Value Through Organic Growth and Acquisitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explain the various ways that organisations may be designed and structured.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Explain the purpose and importance of different types of functional and</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>operational areas within organisations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate capital investment appraisal systems.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Evaluate strategic considerations in mergers and acquisitions.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Explain the strategic role of an effective risk management framework in</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>enhancing business value.</td>
<td></td>
<td></td>
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<tr>
<td><strong>Sustaining Business Value Through Sound Corporate Governance</strong></td>
<td></td>
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<tr>
<td>Differentiate between public and private companies, including the various</td>
<td>2</td>
<td>1</td>
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<tr>
<td>forms such as limited by shares, limited by guarantee, and unlimited, as well</td>
<td></td>
<td></td>
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<tr>
<td>as family-owned and government-linked.</td>
<td></td>
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<tr>
<td>Explain the nature and effect of a company having a separate legal personality</td>
<td>2</td>
<td>1</td>
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<tr>
<td>and the concept of perpetual succession.</td>
<td></td>
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<tr>
<td>Determine instances where the concept of a separate legal identity will be</td>
<td>2</td>
<td>1</td>
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<tr>
<td>ignored (lifting the corporate veil).</td>
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<tr>
<td>Specify the grounds relating to the dissolution and winding up of companies,</td>
<td>2</td>
<td>1</td>
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<td>including the common grounds for winding up a company under an order of the</td>
<td></td>
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<tr>
<td>court.</td>
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<tr>
<td>Specify the procedures for addressing corporate insolvency, including</td>
<td>2</td>
<td>1</td>
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<tr>
<td>stakeholders and the rights of claimants.</td>
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<tr>
<td>Define and justify sustainable business value creation.</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Explain the strategic role of a sound corporate governance structure, in</td>
<td>3</td>
<td>1</td>
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<tr>
<td>balancing short-term financial objectives against medium to long-term business</td>
<td></td>
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<tr>
<td>aims, in pursuit of an overall corporate mission.</td>
<td></td>
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<tr>
<td>Justify the use of corporate governance mechanisms in ensuring the</td>
<td>3</td>
<td>1</td>
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<tr>
<td>maintenance of the following forms of capital, from a business continuity and</td>
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<tr>
<td>sustainability perspective:</td>
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<tr>
<td>• Financial capital;</td>
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<tr>
<td>• Manufactured capital;</td>
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<tr>
<td>• Human capital;</td>
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<td></td>
</tr>
<tr>
<td>• Intellectual capital;</td>
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<tr>
<td>• Natural capital; and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Social capital.</td>
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<tr>
<td>Learning outcome</td>
<td>Cognitive level</td>
<td>Chapter where covered</td>
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<td><strong>INVESTMENT APPRAISAL</strong></td>
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<td><strong>Capital Budgeting and Forecasting</strong></td>
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<tr>
<td>Analyse an organisation's cash flow and working capital requirements.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Analyse the current and future financial position of an organisation, using techniques including ratio analysis, trend analysis and cash flow analysis.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Apply capital budgeting techniques in the evaluation of capital investment decisions.</td>
<td>3</td>
<td>2</td>
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<td><strong>Business Valuation Techniques</strong></td>
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<td>Describe the environment in which an organisation operates, including the main economic, legal, political, social, technical, international and cultural forces.</td>
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<td>3, 6</td>
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<tr>
<td>Explain, apply, and justify the use of income, asset-based, and market valuation approaches used for investment decisions, business planning, and long-term financial management.</td>
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<td>3, 7</td>
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<td><strong>Impact of Financing on Investment Decisions</strong></td>
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<tr>
<td>Compare the various sources of financing available to an organisation, including bank financing, financial instruments and bond, equity and treasury markets.</td>
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<td>Assess the impact of interest rate changes on a company's debt exposure.</td>
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<td>Assess the impact of a company's credit quality on its debt financing options.</td>
<td>2</td>
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<tr>
<td>Assess the appropriateness and cost of the various traditional sources of financing (eg debt and equity) available to an organisation.</td>
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<tr>
<td>Assess the appropriateness and cost of the various non-traditional sources of financing available to an organisation, including Islamic financing, crowd funding, venture capital, and business angels.</td>
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<tr>
<td><strong>International Investment and Financing Decisions</strong></td>
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<tr>
<td>Analyse the aspects of the global environment that affect international trade and finance.</td>
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<tr>
<td>Identify the features of globalisation, including the role of multinationals, e-commerce, economic communities and emerging markets.</td>
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<tr>
<td>Evaluate the significance of exchange controls for a given investment decision and strategies for dealing with restricted remittance.</td>
<td>3</td>
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<tr>
<td>Assess the impact of a project upon a company's exposure to foreign exchange, cross-border transactions and economic risk.</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Assess the costs and benefits of alternative sources of financing available within the international equity and bond markets.</td>
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<td>Chapter where covered</td>
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<td><strong>Mergers and Acquisitions Versus Other Growth Strategies</strong></td>
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<td>Discuss the arguments for and against the use of mergers and acquisitions as a</td>
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<td>method of corporate expansion.</td>
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<td>Evaluate, from a given context, the potential for synergy separately classified</td>
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<tr>
<td>as:</td>
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<td></td>
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<tr>
<td>• Revenue synergy;</td>
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<td></td>
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<tr>
<td>• Cost synergy; and</td>
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<td></td>
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<tr>
<td>• Financial synergy.</td>
<td></td>
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<td>Outline the problems of overvaluation of target companies.</td>
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<td>Assess the impact of an acquisition or merger on the risk profile of the acquirer.</td>
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<td>Demonstrate an understanding of the procedure for valuing high growth start-ups.</td>
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<td>Demonstrate an understanding of the principal factors influencing the development of the regulatory framework for mergers and acquisitions globally.</td>
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</tr>
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<td><strong>GOVERNANCE AND RESPONSIBILITY</strong></td>
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<tr>
<td><strong>The Board of Directors</strong></td>
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<tr>
<td>Explain the formation and termination of an agency relationship and how agency</td>
<td>3</td>
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<tr>
<td>theory underlies the principles of corporate governance.</td>
<td></td>
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<tr>
<td>Outline the role of the agent, paying particular regard to directors as agents.</td>
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<tr>
<td>Identify the powers of directors and officers and in what circumstances they can</td>
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<td>9</td>
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<tr>
<td>bind the company in a contract with third parties.</td>
<td></td>
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<tr>
<td>Illustrate the potential liability of both the principal and agent, including the</td>
<td>3</td>
<td>9</td>
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<tr>
<td>consequence of negligence on behalf of the agent (directors).</td>
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<tr>
<td>Contrast the role of the director as agent with the change in agency relationship</td>
<td>2</td>
<td>9</td>
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<tr>
<td>in relation to insolvency.</td>
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<tr>
<td>Understand the effects of ‘tone at the top’ on sound corporate governance.</td>
<td>2</td>
<td>9</td>
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<tr>
<td>Explain and evaluate the roles and responsibilities of boards of directors and</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>the composition and structure of the board.</td>
<td></td>
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<tr>
<td>Describe and assess the purposes, roles and responsibilities of directors and</td>
<td>2</td>
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<tr>
<td>non-executive directors (NEDs), including independent directors, as well as other</td>
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<td>officers, such as the company secretary, as agents of the company.</td>
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<tr>
<td>Describe and analyse the general principles of legal and regulatory frameworks</td>
<td>2</td>
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<tr>
<td>within which directors operate on corporate boards in Asia.</td>
<td></td>
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<tr>
<td>Define, explore and compare the roles of the Chief Executive Officer and company</td>
<td>2</td>
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<tr>
<td>Chairman.</td>
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## Learning outcome

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### Scope of Corporate Governance

Explain, apply and analyse the purpose of corporate governance in the Asian context, especially in relation to:

- How strong corporate governance and stakeholder relations can help entities plan for the long-term and make better investment decisions;
- Balancing the need for timely decision making with avoidance of power abuse;
- How confidence in the corporate governance of an entity can reduce perceived business risk and impact on valuation;
- Different stakeholder attitudes to the value-added of corporate governance procedures;
- The link between corporate governance and political certainty and stability – recognising the similarity between corporate governance and political constitutions; and
- Prevention of dysfunctional concentrations of power.

Compare and distinguish the different governance issues between the public, private and non-governmental organisations (NGO) sectors.

Explain and evaluate the roles, interests and claims of the following stakeholders involved in corporate governance:

- Directors;
- Management;
- Investors (Shareholders and minority shareholders);
- Auditors; and
- Regulators and Government.

Explain and briefly explore the development of the Singapore Code of Corporate Governance including its impetus and background, in comparison to other major principles-based corporate governance codes and the effects of this code on businesses.

### Board Committees

Explain and evaluate the role and purpose of the following committees in effective corporate governance:

- Remuneration committees;
- Nomination committees;
- Risk committees; and
- Audit committees.

### Directors' Performance Evaluation and Remuneration

Explain and analyse the general principles for assessing the performance and remuneration of directors.

Explain and analyse the legal, ethical, competitive and regulatory issues associated with directors' remuneration.

### INTERNAL CONTROL AND RISK MANAGEMENT

#### Management Control Systems in Corporate Governance

Explain the importance of internal controls and risk management in corporate governance.
## The COSO Internal Control Framework

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<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
<th>Chapter where covered</th>
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</thead>
<tbody>
<tr>
<td>Identify and describe the Components of the Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities.</td>
<td>3</td>
<td>12, 13, 14, 15</td>
</tr>
<tr>
<td>Demonstrate how an organisation should implement the seventeen Principles of the COSO Internal Control Framework.</td>
<td>3</td>
<td>12, 13, 14, 15</td>
</tr>
<tr>
<td>Explain how the Points of Focus should be applied.</td>
<td>3</td>
<td>12, 13, 14, 15</td>
</tr>
<tr>
<td>Determine whether the Components and Principles are ‘present and functioning’.</td>
<td>3</td>
<td>12, 13, 14, 15</td>
</tr>
<tr>
<td>Explain how deficiencies in internal control should be assessed and addressed.</td>
<td>3</td>
<td>12, 14</td>
</tr>
<tr>
<td>Explain how the Principles enable effective operation of the Internal Control Components and the system of internal control as a whole.</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Describe the interaction between the Framework and the application of Ethics Pronouncement (EP) 100: ISCA Code of Professional Conduct and Ethics and (EP) 200: Anti-money laundering and countering the financing of terrorism – requirements and guidelines for professional accountants in Singapore.</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Detail how the Framework can assist an organisation to fulfil its non-financial reporting responsibilities.</td>
<td>3</td>
<td>13</td>
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<tr>
<td>Evaluate the role that technology plays in internal control.</td>
<td>3</td>
<td>14</td>
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</tbody>
</table>

## Categories of Risk

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
<th>Chapter where covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyse business risks, including strategic, operational and financial risks.</td>
<td>3</td>
<td>13</td>
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</table>

## Identifying and Assessing Risk

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
<th>Chapter where covered</th>
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</thead>
<tbody>
<tr>
<td>Define and explain risk in the context of corporate governance.</td>
<td>2</td>
<td>13</td>
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<tr>
<td>Define and describe management responsibilities in risk management.</td>
<td>2</td>
<td>13</td>
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<tr>
<td>Explain the dynamic nature of risk assessment.</td>
<td>2</td>
<td>13</td>
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<tr>
<td>Explain risk appetite and how this affects risk policy.</td>
<td>2</td>
<td>13</td>
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## Assessment and Measurement of Risk

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<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
<th>Chapter where covered</th>
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<tbody>
<tr>
<td>Explain the concepts of assessing the severity and probability of risk events.</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Describe and evaluate a risk assessment framework.</td>
<td>3</td>
<td>13, 14</td>
</tr>
<tr>
<td>Apply appropriate risk measurement techniques and explain the application of risk management.</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Assess the importance and limitations of information for risk management.</td>
<td>3</td>
<td>15</td>
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</table>

## Risk Management and Modelling

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
<th>Chapter where covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain and assess the importance of risk transfer, avoidance, reduction and acceptance.</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Explain and assess the necessity of risk-taking as part of managing an organisation.</td>
<td>3</td>
<td>14, 15</td>
</tr>
<tr>
<td>Explain how business organisations use policies and techniques to mitigate various types of strategic, operational and financial risks.</td>
<td>2</td>
<td>13, 14</td>
</tr>
<tr>
<td>Learning outcome</td>
<td>Cognitive level</td>
<td>Chapter where covered</td>
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<tr>
<td>Management Information in Internal Control</td>
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<tr>
<td>Evaluate the qualities and characteristics of</td>
<td>3</td>
<td>15</td>
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<td>information required in internal controls, risk</td>
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<td>management and risk monitoring.</td>
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<tr>
<td>Evaluate the costs and benefits in the development</td>
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<td>15</td>
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<tr>
<td>of a management information system and/or enterprise</td>
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<td>risk management system.</td>
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<td>Targeting and Monitoring of Risk</td>
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<tr>
<td>Describe and analyse the approach to embedding risk</td>
<td>3</td>
<td>13, 15</td>
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<tr>
<td>management in an organisation.</td>
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<tr>
<td>Demonstrate how an organisation should implement the</td>
<td>3</td>
<td>13</td>
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<tr>
<td>twenty Principles of the COSO Enterprise Risk</td>
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<td>Management Framework.</td>
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<td>Describe how an integrated, organisation-wide</td>
<td>3</td>
<td>1, 13</td>
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<tr>
<td>approach to risk management and internal control can</td>
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<td>help create, enhance, and protect stakeholder value.</td>
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<tr>
<td>Explain and evaluate the importance of monitoring</td>
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<td>15</td>
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<td>risks.</td>
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<tr>
<td>Internal Control and Audit in Corporate Governance</td>
<td></td>
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<tr>
<td>Describe the importance of internal controls on both</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>internal and external audits.</td>
<td></td>
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<tr>
<td>Explore and evaluate the effectiveness of internal</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>control systems.</td>
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<tr>
<td>EMERGING TRENDS AND CURRENT ISSUES</td>
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<tr>
<td>Summarise the key issues in relation to both domestic</td>
<td>1</td>
<td>1, 7, 8, 9, 10, 11,</td>
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<tr>
<td>and international emerging trends and current issues.</td>
<td></td>
<td>13, 14</td>
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</tbody>
</table>
Reading the Textbook and using the Practice Workbook

Now that you are familiar with the Module Objective and the Learning Outcomes (syllabus), you have a better understanding of the learning journey ahead of you. Before you begin reading the Textbook, you should look at the Learning Outcomes listed at the beginning of each chapter, as these statements indicate the key takeaways from the chapter and will help you to focus your reading efforts. As you read each section in the Textbook, it is essential that you also read the relevant section(s) from the applicable Codes, Standards, Statutes, Regulations, and Guides. This will help you to reinforce the key concepts.

At the beginning of most chapters you will also find a list of additional essential reading that will further supplement your learning. Remember, the Textbook is a starting point only, not a comprehensive document. You are required to read widely and to keep up-to-date with the latest developments.

Each semester is approximately 13 weeks long. You should establish your own detailed study plan that fits in with your work and other commitments. There are two distinct periods during the semester that you should take note of: i) gaining knowledge and developing your application skills and ii) revising for the examination, which includes honing your application skills.

A sample study plan might be to divide the semester into two with:

- The first ten weeks spent gaining knowledge and developing your application skills; and
- The final three weeks spent revising for the examination and doing practice exam questions.

Using this sample study plan, you would then divide the number of Textbook chapters by ten and plan to work through each chapter accordingly. As you complete each chapter, you should also attempt the corresponding question or questions from Section 1 of the Practice Workbook. This approach will help you to establish whether you have comprehended the concepts thoroughly and reinforces the knowledge and skills gained.

Once you have read the entire Textbook, as well as the other suggested reading materials and worked through the topic-specific questions from Section 1 of the Practice Workbook, you should then switch to intense revision mode and start preparing yourself for the examination. Remember, the end-of-module examination is 100% of your assessment and you have to attain a minimum of 50% of the available marks to achieve a pass.

Section 2 of the Practice Workbook provides exam-standard questions with suggested solutions to help you hone your skills. You should attempt each question as if it were part of a real examination, limiting the time allowed to complete, and being brutally honest with yourself when you compare your answer to the answer suggested. As part of your revision, you should refer back to the Textbook and other essential reading material to ensure that you have fully understood the concepts and noted any exceptions.

In terms of time invested, it is recommended that you spend 120 hours on gaining knowledge and developing your application skills (approximately 12 hours a week for the first 10 weeks of the semester). The last three weeks should be devoted to intensive revision and exam practice. At a minimum, you should plan to invest at least 14 hours each week in the three weeks leading up to the examination.

Remember, your investment of time and effort for this module is just a few short weeks for a rewarding professional career that will last a lifetime.

For any technical queries relating to the Textbook, please email ISCA at SingaporeCAQualification_exam@isca.org.sg.
Chapter Features

This Textbook has been designed to provide Candidates with numerous features to assist the Candidates in preparing for the exams.

**Essential Reading** directs you to information that you will need to synthesise and/or apply in order to successfully complete this module.

**Important information** highlights issues that you should be aware of, relating to areas currently undergoing change or which are the subject of discussion.

**Section Introductions** explain how the section fits into the chapter.

**Key Terms** are the core vocabulary you need to learn.

**Key Points** are points that you have to know, ideas or calculations that will be the foundations of your answers.

**Exam Skills** are the key skills you will need to demonstrate in the exam, linked to question requirements.

**Formulae To Learn** are formulae you must remember in the exam.

**Examples** show how theory is put into practice.

**Questions** give you the practice you need to test your understanding of what you've learnt.

**Case Studies** link what you've learnt with the real-world business environment.

**Links** show how the syllabus overlaps with other parts of the qualification, including Knowledge Brought Forward that you need to remember from previous exams.

**Website References** link to material that will enhance your understanding of what you're studying.

**Further Reading** will give you a wider perspective on the subjects you're covering.

**Section Summaries** allow you to review each section.

**Flags** highlight key legislation which you should familiarise yourself with.
Examinable documents

The list below indicates the Standards, Statutes, and other documents, which are regarded as examinable for this module.

The list below indicates documents in issue as at 31 December 2017 which are regarded as examinable.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap 2</td>
<td>Accountants Act</td>
</tr>
<tr>
<td>Cap 294B</td>
<td>Singapore Accountancy Commission Act</td>
</tr>
<tr>
<td>Cap 50</td>
<td>Companies Act</td>
</tr>
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<td></td>
<td>Companies (Amendment) Act 2014</td>
</tr>
<tr>
<td></td>
<td>Code of Corporate Governance [link]</td>
</tr>
<tr>
<td>Cap 37</td>
<td>Charities Act</td>
</tr>
<tr>
<td></td>
<td>Guidebook for Audit Committees in Singapore 2nd ed.</td>
</tr>
<tr>
<td></td>
<td>Singapore Exchange Rulesbook</td>
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<tr>
<td></td>
<td>Guidance to Audit Committees on Evaluation of Quality of Work Performed by External Auditors</td>
</tr>
<tr>
<td></td>
<td>Singapore Code of Take-overs and Mergers</td>
</tr>
<tr>
<td></td>
<td>COSO Internal Control Framework (2013) and COSO Enterprise Risk Management Framework (2017)</td>
</tr>
<tr>
<td>FRS 113</td>
<td>FRS 113 Fair Value</td>
</tr>
<tr>
<td></td>
<td>The SSAs relating to internal control and using the work of internal auditors</td>
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<tr>
<td></td>
<td>Relevant OECD Principles</td>
</tr>
<tr>
<td></td>
<td>Risk Governance Guidance for Listed Boards</td>
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<tr>
<td></td>
<td>Code of Governance for Charities and Institutions of a Public Character</td>
</tr>
<tr>
<td>Cap 65A</td>
<td>Corruption, Drug Trafficking And Other Serious Crimes (Confiscation of Benefits) Act</td>
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<tr>
<td></td>
<td>Personal Data Protection Act 2012 and relevant sections from the regulations</td>
</tr>
<tr>
<td></td>
<td>CAD Anti-Money Laundering and Counter-Terrorism Financing Handbook – from [link]</td>
</tr>
<tr>
<td>EP100</td>
<td>ISCA Code of Professional Conduct and Ethics</td>
</tr>
<tr>
<td>EP200</td>
<td>Anti-Money Laundering and Countering the Financing of Terrorism – Requirements and Guidelines for Professional Accountants in Singapore</td>
</tr>
<tr>
<td></td>
<td>Asian family Firms: Success and Succession [link]</td>
</tr>
<tr>
<td></td>
<td>Risks &amp; Opportunities Management Disclosure Guide [link]</td>
</tr>
<tr>
<td>Reference</td>
<td>Title</td>
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</tbody>
</table>
PART A
Enhancing Business Value
This Textbook is concerned with the creation of business value and sustaining business value over the long term. Business value is increased by making investments that provide a good return. Business value is also created and sustained, for companies, by sound corporate governance and risk management. This chapter provides an introduction to enhancing business value, and the issues raised in this chapter will be developed in more detail in the rest of this text.
### Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increasing Business Value Through Organic Growth and Acquisitions</strong></td>
<td></td>
</tr>
<tr>
<td>Explain the various ways that organisations may be designed and structured.</td>
<td>2</td>
</tr>
<tr>
<td>Explain the purpose and importance of different types of functional and operational areas within organisations.</td>
<td>2</td>
</tr>
<tr>
<td>Evaluate capital investment appraisal systems.</td>
<td>3</td>
</tr>
<tr>
<td>Evaluate strategic considerations in mergers and acquisitions.</td>
<td>3</td>
</tr>
<tr>
<td>Explain the strategic role of an effective risk management framework in enhancing business value.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sustaining Business Value Through Sound Corporate Governance</strong></td>
<td></td>
</tr>
<tr>
<td>Differentiate between public and private companies, including the various forms such as limited by shares, limited by guarantee, and unlimited, as well as family-owned and government-linked.</td>
<td>2</td>
</tr>
<tr>
<td>Explain the nature and effect of a company having a separate legal personality and the concept of perpetual succession.</td>
<td>2</td>
</tr>
<tr>
<td>Determine instances where the concept of a separate legal identity will be ignored (lifting the corporate veil).</td>
<td>2</td>
</tr>
<tr>
<td>Specify the grounds relating to the dissolution and winding up of companies, including the common grounds for winding up a company under an order of the court.</td>
<td>2</td>
</tr>
<tr>
<td>Specify the procedures for addressing corporate insolvency, including stakeholders and the rights of claimants.</td>
<td>2</td>
</tr>
<tr>
<td>Define and justify sustainable business value creation.</td>
<td>2</td>
</tr>
<tr>
<td>Explain the strategic role of a sound corporate governance structure, in balancing short-term financial objectives against medium to long-term business aims, in pursuit of an overall corporate mission.</td>
<td>3</td>
</tr>
<tr>
<td>Justify the use of corporate governance mechanisms in ensuring the maintenance of the following forms of capital, from a business continuity and sustainability perspective:</td>
<td></td>
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<tr>
<td>- Financial capital;</td>
<td></td>
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<tr>
<td>- Manufactured capital;</td>
<td></td>
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<tr>
<td>- Human capital;</td>
<td></td>
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<td>- Intellectual capital;</td>
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<tr>
<td>- Natural capital; and</td>
<td></td>
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<tr>
<td>- Social capital.</td>
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</tr>
<tr>
<td><strong>Targeting and monitoring of risk</strong></td>
<td></td>
</tr>
<tr>
<td>Describe how an integrated, organisation-wide approach to risk management and internal control can help create, enhance and protect stakeholder value</td>
<td>3</td>
</tr>
<tr>
<td><strong>Emerging trends and current issues</strong></td>
<td></td>
</tr>
<tr>
<td>Summarise the key issues in relation to both domestic and international emerging trends and current issues</td>
<td>1</td>
</tr>
</tbody>
</table>
1 Influences on organisational structure

SECTION INTRODUCTION

Organisations may be designed and structured in different ways, but these designs are usually characterised by a formal division of labour and hierarchies of authority (scalar chains). The organisational structure influences strategy as it is one of the ways in which power is deployed and information communicated. Organisational structure determines how work is allocated, directed and controlled within functional and operational areas, in order to achieve the goals of the organisation.

1.1 What influences organisational structure?

(a) Its **size**. As an organisation gets larger, its structure gets more complex: specialisation and subdivision are required. The process of controlling and coordinating performance, and communication between individuals grows more difficult as the 'top' of the organisation gets further from the 'bottom', with more intervening levels.

(b) Its **task**, ie the nature of its work. Structure is shaped by the division of work into functions and individual tasks, and how these tasks relate to each other. Depending on the nature of the work, this can be done in a number of ways. The complexity and importance of tasks will affect the amount of supervision required, and so the ratio of supervisors to workers.

(c) Its **staff**. The skills and abilities of staff will determine how the work is structured and the degree of autonomy or supervision required.

(d) Its legal, commercial, technical and social **environment**. One example is the way new technology is reducing overall staff requirements by increasing specialisation.

(e) Its **age** – the time it has had to develop and grow: whether it is very set in its ways and traditional, or experimenting with new ways of doing things and making decisions.

(f) Its **culture and management style** – how willing management is to delegate authority at all levels, whether teamwork is favoured, or large, impersonal structures are accepted by the staff.

A formal organisational structure has distinctive characteristics.

- A **division of labour**
- Planned **divisions of responsibility**
- **Power centres** which control its efforts
- **Substitution of personnel** (eg the position of financial controller does not disappear when the current occupant resigns)
- The ability to **group personnel** in different ways according to work
1.2 Span of control and the scalar chain

The **span of control** refers to the number of subordinates immediately reporting to a superior official. In other words, if a manager has five subordinates, the span of control is five.

A number of factors influence the span of control.

(a) A manager's **capabilities** limit the span of control: there are physical and mental limitations to any single manager's ability to control people and activities.

(b) The **nature of the manager's workload**.

(c) The **geographical dispersion** of subordinates: dispersed teams require more effort to supervise.

(d) **Subordinates' work**: if all subordinates do similar tasks, a wide span is possible.

(e) The **nature of problems** that a supervisor might have to help subordinates with.

(f) The degree of **interaction between subordinates**. If subordinates can help each other, a wide span is possible.

(g) The amount of **support** that supervisors receive from other parts of the organisation or from technology (eg computerised work monitoring, or 'virtual meetings' with dispersed team members).

The span of control concept has implications for the length of the **scalar chain**: the chain of command from the most senior to the most junior.

A **tall organisation** is one which, in relation to its size, has a large number of levels of management hierarchy. This implies a narrow span of control.

A **flat organisation** is one which, in relation to its size, has a small number of hierarchical levels. This implies a wide span of control.

The advantages and disadvantages of these organisational forms can be summarised as follows.

**Tall organisation**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrow control spans</td>
<td>Inhibits delegation</td>
</tr>
<tr>
<td>Small groups enable team members to participate in decisions</td>
<td>Rigid supervision can be imposed, blocking initiative</td>
</tr>
<tr>
<td>A large number of steps on the promotional ladders – assists management training and career planning</td>
<td>The same work passes through too many hands</td>
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<tr>
<td></td>
<td>Increases administration and overhead costs</td>
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<tr>
<td></td>
<td>Slow decision-making and responses</td>
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</tbody>
</table>

**Flat organisation**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>More opportunity for delegation</td>
<td>Requires that jobs can be delegated. Managers may only get a superficial idea of what goes on.</td>
</tr>
<tr>
<td>Relatively cheap</td>
<td>Sacrifices control</td>
</tr>
<tr>
<td>In theory, speeds up communication between strategic decision makers and operational management</td>
<td>Middle managers are often necessary to convert the strategic vision into operational terms</td>
</tr>
</tbody>
</table>
1.3 Divisionalisation

Divisionalisation is the division of a business into autonomous regions or product businesses, each with its own revenues, expenditures and capital asset purchase programmes, and therefore each with its own profit and loss responsibility.

Each division of the organisation might be:

- A subsidiary company under the holding company
- A profit centre or investment centre within a single company

Successful divisionalisation requires certain key conditions.

(a) Each division must have properly delegated authority, and must be held properly accountable to head office (e.g. for profits earned).

(b) Each unit must be large enough to support the quantity and quality of management it needs.

(c) The unit must not rely on head office for excessive management support.

(d) Each unit must have a potential for growth in its own area of operations.

(e) There should be scope and challenge in the job for the management of each unit.

(f) If units deal with each other, it should be as an ‘arm’s length’ transaction. There should be no insistence on preferential treatment to be given to a ‘fellow unit’ by another unit of the overall organisation.

The advantages and disadvantages of divisionalisation may be summarised as follows.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focuses the attention of management below ‘top level’ on business performance.</td>
<td>In some businesses, it is impossible to identify completely independent products or markets for which separate divisions can be set up.</td>
</tr>
<tr>
<td>Reduces the likelihood of unprofitable products and activities being continued.</td>
<td>Divisionalisation is only possible at a fairly senior management level, because there is a limit to how much discretion can be used in the division of work.</td>
</tr>
<tr>
<td>Encourages a greater attention to efficiency, lower costs and higher profits.</td>
<td>There may be more resource problems. Many divisions get their resources from head office in competition with other divisions.</td>
</tr>
<tr>
<td>Gives more authority to junior managers, and so grooms them for more senior positions in the future (planned managerial succession).</td>
<td>There is the potential for some duplication of costs or activities; for example with each division having its own administrative staff.</td>
</tr>
<tr>
<td>Reduces the number of levels of management. The top executives in each division should be able to report directly to the chief executive of the holding company.</td>
<td>There may be a loss of management control over activities and operations lower down the hierarchy.</td>
</tr>
</tbody>
</table>

1.4 Departmentation

In most organisations, tasks and people are grouped together in some rational way, for example on the basis of specialisation or shared technology or customer base. This is known as departmentation.

Different patterns of departmentation are possible, and the pattern selected will depend on the individual circumstances of the organisation.
Geographic departmentation

Where the organisation is structured according to geographic area, some authority is retained at Head Office but day-to-day operations are handled on a territorial basis (e.g., Southern region, Western region). Many sales departments are organised territorially.

Functional departmentation

Functional departmentation involves grouping together people who do similar tasks. Primary functions in a manufacturing company might be production, sales, finance, and general administration. Sub-departments of marketing might be market research, advertising, PR and so on.

Product departmentation

Some organisations group activities on the basis of products or product lines. Some functional departmentation remains (e.g., manufacturing, distribution, marketing, and sales) but a divisional manager is given responsibility for the product or product line, with authority over personnel of different functions.

Hybrid structures

Organisational structures are rarely composed of only one type of organisation. 'Hybrid' structures may involve a mix of functional departmentation, ensuring specialised attention to key functions, with elements of (for example):

(a) Product organisation, to suit the requirements of production technologies.
(b) Customer organisation, particularly in marketing departments, to service key accounts.
(c) Geographical organisation, particularly of sales and distribution departments, to service local requirements for marketing or distribution in dispersed regions or countries.

Matrix and project organisation

While a hybrid structure 'mixes' organisation types, matrix organisation actually crosses functional and product/customer/project organisation.

Advantages of matrix organisation include:

(a) Greater flexibility of:
   (i) People. Employees develop an attitude geared to accepting change, and departmental monopolies are broken down.
(ii) **Workflow and decision-making.** Direct contact between staff encourages problem solving and big-picture thinking.

(iii) **Tasks and structure.** The matrix structure may be readily amended, once projects are completed.

(b) **Inter-disciplinary co-operation** and a mixing of skills and expertise, along with improved communication and co-ordination.

(c) **Motivation and employee development:** providing employees with greater participation in planning and control decisions.

(d) **Market awareness:** the organisation tends to become more customer/quality focused.

(e) **Horizontal workflow:** bureaucratic obstacles are removed, and department specialisms become less powerful.

There are **disadvantages,** however.

(a) **Dual authority** threatens a conflict between functional managers and product/project/area managers.

(b) An individual with two or more bosses may suffer stress from conflicting demands or ambiguous roles.

(c) **Cost:** product management posts are added, meetings have to be held, and so on.

(d) **Slower decision-making** due to the added complexity.

### 1.5 New structural models

**Virtual organisations.** The organisation may consist of individuals, teams, companies or stakeholders. Members are geographically dispersed and the organisation usually only exists electronically on the Internet, without any physical premises. This creates cost savings from not having the costs associated with physical locations, such as rent. For example, Amazon operates as a virtual retailer without incurring the cost of retail premises. These organisations are entirely reliant on their technology and any problems could affect the operation of the organisation.

In a **hollow organisation** people and activities are split between core and non-core competencies. All non-core processes and activities are outsourced. For example, the sports shoe and clothing manufacturer Nike outsources production to sub-contractors – but the activity seen as core and key, product design, is retained in-house. Such organisations can then focus on their core activities, but this structure depends on being able to find reliable sub-contractors.

In **modular organisations** different elements or components of the product or service the organisation produces are outsourced to different suppliers. The retained people within the organisation assemble or combine these elements to produce the final product or service. This structure enables the organisation to be more flexible and to respond to market needs more quickly, but also depends on reliable suppliers.

**Boundaryless organisations** remove both the internal barriers that separate the hierarchy levels, different functions and different departments, and also remove the barriers between the organisation and its suppliers, customers, and competitors. To help eliminate boundaries, managers may use virtual, hollow or modular structures. This helps to eliminate bureaucracy and helps to reduce costs.

### 1.6 Centralisation and decentralisation

An important, general aspect of an organisation's structure is the level at which decisions are taken.

There is a contrast between centralised organisations in which the authority for most decisions remains with the upper levels of the organisation's hierarchy and decentralised organisations, in which the authority to make specific decisions is delegated to people at lower levels in the organisation's hierarchy.
Consequently, decentralisation allows local managers to respond flexibly to local market conditions without constantly having to refer back to head office.

An organisation might find that an effective approach to decision making will be to centralise corporate-level strategic decisions, and decentralise tactical or operating decisions.

1.7 Corporate strategy and organisational structure

An organisation's structure must support its strategy. Corporate strategy is concerned with what types of business the organisation is in. For instance, the classic division of large organisations into strategic business units (SBUs) arose because of the diversity of the products and markets concerned. Business strategy for such large organisations is strategy at the SBU level.

Levels of strategy

<table>
<thead>
<tr>
<th>CORPORATE STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>What businesses are we (or want to be) in?</td>
</tr>
<tr>
<td>How do we enter or exit?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Business Unit (SBU)</td>
</tr>
</tbody>
</table>

| STRATEGIES INVOLVING MANY FUNCTIONS (EG CHANGE MANAGEMENT, TOTAL QUALITY, RE-ENGINEERING) |
| R&D |
| Products |
| Processes |
| Design |
| Development |
| Testing |
| Operations |
| Capacity |
| Process technology |
| Work flows |
| Quality |
| Outsourcing |
| Marketing |
| Orientation |
| Marketing mix |
| Product planning |
| Marketing information |
| Segmentation |
| Services |
| HRM |
| Recruitment |
| Selection |
| HRD |
| Appraisal |
| Reward |
| IT/IS |
| Systems |
| Technology |
| Management |
| FINANCE |
| Sources |
| Uses |
## Functional strategies

The different functional/operational areas within an organisation will each deal with specialised areas of activity.

<table>
<thead>
<tr>
<th>Functional area</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and Development (R&amp;D)</td>
<td>New products and techniques</td>
</tr>
<tr>
<td>Purchasing</td>
<td>Ensuring that the firm acquires the raw materials and other supplies that it needs at the best price possible, and with assurances over quality and delivery in accordance with production schedules.</td>
</tr>
<tr>
<td>Production</td>
<td>Factory location, manufacturing techniques and outsourcing.</td>
</tr>
<tr>
<td>Direct service provision</td>
<td>The provision of services to customers (as opposed to the production of goods) encompassing a range of activities, depending on the business concerned – eg consultancy, accounting, payroll services, tax advice, facilities management.</td>
</tr>
<tr>
<td>Marketing</td>
<td>Devising products and services, pricing, promoting and distributing them, in order to satisfy customer needs at a profit. Marketing and corporate strategies are interrelated.</td>
</tr>
<tr>
<td>Administration</td>
<td>General support to other business functions in their day to day activities – call handling, reception duties, maintenance of records etc.</td>
</tr>
<tr>
<td>Finance</td>
<td>Ensuring that the firm has enough financial resources to fund its other strategies by identifying sources of finance and using them effectively.</td>
</tr>
<tr>
<td>Human resources management</td>
<td>Secure personnel of the right skills in the right quantity at the right time, and to ensure that they have the right skills and values to promote the firm’s overall goals.</td>
</tr>
<tr>
<td>Information systems</td>
<td>A firm’s information systems are becoming increasingly important, as an item of expenditure, as administrative support and as a tool for competitive strength.</td>
</tr>
</tbody>
</table>
PART A ENHANCING BUSINESS VALUE

1: Enhancing business value

SECTION SUMMARY

Organisational structure determines how work is allocated, directed and controlled, in order to achieve the goals of the organisation. Span of control refers to the number of subordinates responsible to a superior. Recent trends have been towards tall organisations (with many management levels, and narrow spans of control) turning into flat organisations (with fewer management levels, wider spans of control).

In a divisional structure some activities are decentralised to business units or regions. A centralised organisation, by contrast, is one in which authority is concentrated in one place. In most organisations, tasks and people are grouped together in some way: on the basis of functional specialisation or shared technology or customer base. This is known as departmentation. The division of large organisations into strategic business units (SBUs) arose because of the diversity of the products and markets concerned, and the different functional areas within an organisation will each deal with specialised areas of activity. Matrix and project structures cross these functional and product/customer divisions. 'Virtual' and 'boundaryless' organisations are also recognised.

2 Enhancing business value through organic growth

SECTION INTRODUCTION

This section considers the meaning of business value and how business value is increased through organic growth.

2.1 Business value

The value of a business is commonly defined in money terms. From a financial perspective, business value could be defined as the amount of money that someone would be willing to acquire it for. The International Valuation Standards Council defines ‘market value’ in its glossary as: ‘The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion’ (www.ivsc.org/standards/glossary).

Business value can be defined in other ways, not just in financial or monetary terms. Other perspectives on business value will be discussed later.

For companies whose shares are traded on a stock market, business value can be established in money terms as follows:

- The company's equity could be valued at the number of shares in issue multiplied by the market price per share, and
- The total value of the company could be measured as the value of its equity plus the value of its long-term debt.

This is not necessarily a correct method of valuation. If a company has one million shares in issue and the share price is $55, this does not mean that someone would pay $5 million to acquire the company. The
cost of acquiring the company would probably be higher than S$5 million, because there is intrinsic value in complete ownership and control, derived from the ability to be in control of the future direction of the business, and therefore the opportunities for the maximisation of shareholder wealth. The share price is also the current price at which shares are traded on the stock market, and share prices fluctuate with supply and demand.

The financial value of a private company could also be defined as the price that someone would pay to acquire it, but until an actual offer is made for the company, there is inevitable uncertainty about what this value might be.

For other businesses, such as state-owned corporations, there is no obvious way of measuring their financial value. Even so, business value is an important concept. All business organisations should be trying to increase value or add value, in whatever way value is measured.

2.2 Increasing business value

A business should seek to increase its value over the long term. If a business cannot create value, there must be a doubt about whether the business should continue to exist. If a business consumes resources and capital at a faster rate than it creates them, it will lose value and eventually become unsustainable and insolvent, or dependent on subsidy.

- For companies, increasing business value can be defined as increasing the amount that someone would pay to acquire them, and so increasing their financial value.
- Increasing value for a stock market company could also be defined in terms of increasing the value of its shares over the medium or long term.
- Increasing business value can also be defined in terms of increasing the assets of the company at a faster rate than it acquires additional liabilities.

Value creation is associated with business growth, and companies can grow their business (and their value) in several ways:

- Through organic growth, and building up the company's resources, largely by retaining and reinvesting profits.
- Through acquisition of other companies; however if an excessive price is paid for an acquisition, value is lost rather than gained.
- Through the pursuit of joint ventures, which involve forming a separate business in which the participating businesses take a financial stake, and management is provided as agreed.
- The formation of strategic alliances, contractual agreements between parties and are similar to joint ventures although normally no separate company is formed. Examples include national airlines that have created alliances to cross-book passengers.

2.2.1 Non-monetary measures of business value

Business value can be considered from non-monetary aspects.

- Customer value is the value received by customers from the products or services that an organisation provides. It can be measured in terms of customer satisfaction. By creating customer value, an organisation also adds to its own monetary value.
- Employee value is the value that an organisation 'possesses' in the skills, knowledge and experience of its employees. A business needs to maintain and enhance its employee value in order to survive over the long term.
- Channel partner value and alliance partner value are the value that a business obtains through its channels of distribution and association with business venture partners.
The value of a business may also be considered in terms of the value that it provides, directly and indirectly, to society. Business organisations provide employment, pay taxes and are often involved in activities to support local communities and charities. Many companies are involved in providing goods and services that contribute to the well-being of society – for example buildings, transport networks, hospitals and schools.

Non-monetary aspects of value are measured by the so-called Six Capitals model of business value and sustainability. This is explained later in this chapter.

However, the main focus of ‘business value’ in this text is on the monetary value of businesses.

### 2.3 Organic growth and capital investment appraisal

Organic growth means expansion of a business by increasing output, revenue and profits, without resorting to acquisitions/takeovers or mergers.

- It is usually safer than rapid growth through acquisitions. The business usually does not take large financial risks. Organic growth involves a business building on its existing resources and capabilities, and unlike growth through acquisition, the business does not usually need additional external capital.
- It usually takes longer to achieve growth organically than by acquisition or more aggressive strategies.
- Diversification into new product areas or new markets is often also more difficult to achieve organically than by acquisition, because diversification means going into areas of business without any previous knowledge or experience of the market.

Although organic growth typically requires less capital than growth through acquisition, it may still require some capital investment, and before making a new capital investment, management should assess whether it will increase business value. New investments should be undertaken only if they are expected to increase value. *When value is measured in financial terms*, management can use capital investment appraisal techniques to decide whether or not the investment should be undertaken.

### 2.4 Capital investment appraisal systems

The ability of a capital investment appraisal to measure the expected increase in value from a capital investment depends on the quality of the appraisal system.

You should be familiar already with methods of capital investment appraisal, such as return on investment analysis, payback and Discounted Cash Flow. Payback is the time it takes the cash inflows from a capital investment project to equal the cash outflows, usually expressed in years.

Discounted Cash Flow (DCF) analysis, and in particular the Net Present Value method, is the most appropriate method of analysis because:

- It measures the returns from an investment as cash flows rather than as profit. Cash is a much better guide to investment return than profit.
- Unlike payback, DCF methods evaluate total investment returns over the full life of the investment project.
- **Net Present Value (NPV)** is a financial measure of the increase in value that will be expected from the investment if it goes ahead. A negative NPV is a measure of the loss in value that should be expected if the investment is undertaken. In theory, a business should increase in value by the amount of the positive NPV of an investment project, as soon as the project is undertaken.

The reliability of DCF appraisal systems depends on several factors:

- **DCF** is a process of discounting estimated future cash flows to a present value and comparing the present value of expected spending with the present value of expected cash returns. The calculation of NPV depends on the reliability of the future cash flow estimates.
There is often a considerable amount of uncertainty about the future and the success of an investment. Estimates of cash flow may be unreliable because of this uncertainty.

Cash flow estimates for years in the longer-term future are less reliable than estimates for the short term future. For example, an estimate of sales or cost savings for the first year of an investment project is likely to be much more reliable than an estimate of sales or cost savings in Year 10. When a proposed investment has a long life, cash flow estimates for much of the project could be liable to considerable amounts of inaccuracy.

When the expected rate of price inflation is high, there is additional uncertainty about future cash flows, because these will also depend on the actual rate of inflation. Estimates could be incorrect.

There can be difficulties in identifying an appropriate cost of capital to use in DCF analysis. The discounted value of estimated future cash flows depends on the cost of capital or discount rate that is used. The NPV of a project changes inversely with changes in the cost of capital, and at a higher discount rate, the NPV is lower.

A general criticism of Discounted Cash Flow is that it measures a value for items that have an identifiable cash flow. An investment may create value in ways that cannot be measured easily in money terms: such as quality of output; customer loyalty; acquiring knowledge and experience; or protection of the natural environment. DCF does not easily put a value to non-financial returns from investment.

2.4.1 DCF analysis and risk and uncertainty

A good capital investment appraisal should include an assessment of risk.

Uncertainty is risk in the cash flow estimates, which are based on best assumptions but incomplete knowledge.

There is also the inherent risk in business: investments may actually prove much more successful or much less successful commercially than expected, due to conditions in the business environment such as the state of the economy or competitors' reactions and responses.

The risk in an investment can be assessed in several ways, such as:

- **Sensitivity analysis**: re-calculating the NPV of the investment by making changes to individual assumptions about the level of cash flows for some key factors, such as reducing expected sales revenue by 5%, or increasing estimates of labour costs by 10%.
- **Stress testing**: re-calculation the NPV of the project under fairly extreme adverse conditions.
- **Adjusting the cost of capital to allow for the business risk**: The cost of capital should be higher when the perceived risk is higher than normal, and less when the perceived risk is less. A technique for adjusting the cost of capital to allow for risk is described in a later chapter.

**SECTION SUMMARY**

The expected increase in business value through investment for organic growth can be measured by investment appraisal techniques, in particular using the Net Present Value method of DCF analysis. The quality of investment appraisal depends, however, on the reliability of cash flow estimates and the use of an appropriate discount rate. Good investment appraisal systems should also include a careful assessment of risk in investments.

You may be required to evaluate capital investment appraisal systems in your examination. Aspects of investment appraisal and DCF are covered in later chapters.
3 Enhancing business value through acquisitions

SECTION INTRODUCTION

Acquisitions and mergers are an alternative method of growing a business. This section considers the strategic aspects of mergers and acquisitions.

Acquisitions and mergers are both methods of increasing the value of a business by combining two separate businesses into one.

- **With an acquisition or takeover**, one company (the offeror) purchases a controlling interest in the share capital of another company (the offeree). Shareholders in the offeree company sell their shares to the offeror at the offer price, and the offeror acquires up to 100% of the shares in the offeree.

- **With a merger**, two companies (often of more or less equal size) come together, and shareholders in both companies retain an equity interest after they are combined. For example, Company A and Company B may merge by creating AB Holding Company. The shareholders in Company A may exchange their shares for, say, 60% of the shares in AB Holding; and the shareholders in Company B may exchange their shares for the other 40% of the shares in AB Holding. Alternatively, a merger could be achieved through shareholders swapping their shares in one company for shares in the other, but without creating a new company. For example, in this case, shareholders of Company B could swap their shares in Company B for shares in Company A, thereby becoming shareholders in an enlarged Company A.

**Example**

In practice, a merger may in effect become a takeover. For example in 2013, commodity trading company Glencore combined with mining company Xstrata to form the Swiss-based company Glencore Xstrata. Originally described as a merger of the two companies, it quickly became a takeover of Xstrata by Glencore, as former Xstrata executives resigned and the former Glencore bosses took over control of the business.

3.1 Strategic reasons for growth by acquisition or merger

There are several reasons for growth through acquisition or merger.

- **To create a company with a larger share of the market.** Companies with a larger market share are often able to raise their perceived status with suppliers and customers, and are able to compete more successfully with competitors.

- **To achieve cost savings.** This is sometimes known as *synergy* or the $2 + 2 = 5$ effect. Two businesses combined into one can achieve more than the two businesses separately. Examples of synergy are savings in purchasing costs due to buying in larger quantities; and reductions in administrative costs by combining administration and management systems. Combined companies may also be able to use research and development facilities more economically, in an industry where R&D costs are high. For example, when the global pharmaceutical companies SmithKline Beecham and Glaxo Wellcome merged in 2000 to form GlaxoSmithKline (GSK), they were able to combine and rationalise their expensive R&D activities.

- **To grow quickly.** Growth through acquisition is much faster than organic growth, although acquisitions must often be financed by raising additional capital externally (borrowing more or issuing new shares). Rapid growth can be strategically important in high-growth industries. For example, in 2009 OCBC acquired the Asian private banking arm of ING which tripled OCBC's private banking funds, transforming OCBC's position in the private banking market.
To acquire valuable assets. A company may seek to acquire other smaller companies in order to gain possession of valuable assets of the small company that the acquirer does not have. This can be important strategically in high growth businesses, where innovations are developed by small start-up companies. This has been a strategy of companies such as Google and Facebook.

To diversify. When a company wants to diversify into new markets or new product areas, it is often much less risky to achieve this objective by means of acquisition or takeover than by means of ‘organic growth’ and developing the existing business. An example of this is SingTel’s acquisition of Optus in 2001 to enter the Australian telecommunications market.

To reduce perceived risk. Companies may want to make acquisitions or arrange mergers in order to reduce risk. A larger business may have a better credit rating than a smaller company, because it has larger revenues and cash inflows. In some cases, an unlisted company may make an acquisition so that it achieves a size that makes it eligible for a listing for its shares on the stock market.

3.2 Enhancing value

When two companies combine, a larger business is created. The business has more capital and more assets, and in this sense there has been an increase in value. However, it can also be argued that if the cost of an acquisition is more than the value of the acquired business, then the value is lost.

Example

Large Company makes an offer for the share capital of Small Company. Large Company is a listed company with 200 million shares each valued at $3. Small Company has 100 million shares and Large makes a cash offer of $1.50 per share.

The offer is accepted by all the shareholders in Small, and Large finances the purchase price by issuing 50 million new shares at a price of $3 each.

After the acquisition, the share price of Large falls to $2.80.

(a) The acquisition has created a larger business with a higher total value. The company now has a market value of 250 million shares at $2.80 or $700 million, compared to its value of $600 million pre-acquisition.

(b) However, there has been a fall in the value of the company's shares. The holders of the 200 million shares pre-acquisition have seen a fall in value of $40 million ($0.20 per share) and there is also a loss for the buyers of the new shares.

The company has grown, but it has not increased the wealth of its shareholders. Value has been lost rather than gained. In total, the acquisition has resulted in a loss of value of $50 million. Pre-acquisition Large Company had a value of $600 million, and Small Company had a value of $150 million, giving a combined value of $750 million. However, post-acquisition, Large Company's value is $700 million.

A critical issue with acquisitions is the price that is paid for the acquired company. Mergers and acquisitions are considered in more detail in a later chapter.

SECTION SUMMARY

Companies may seek acquisitions or mergers for a variety of strategic reasons. However, acquisitions may result in a loss of value for shareholders, when the price paid exceeds the value of the business acquired.
4 Risk management framework

SECTION INTRODUCTION

Business value depends on risk in the business as well as the size of returns. This section considers how a framework for management of risk should help to keep levels of risk at an appropriate level, so that a business maximises value through an appropriate combination of return and risk.

4.1 How risk affects business value

An entity’s value can be affected by risks arising from the nature of its business, as well as by operational risk and financial risks.

- **Some businesses are inherently more risky than others.** In a risky business, there is a possibility that investments will produce very high returns, but there is also a considerable risk of low returns and even losses. With less risky businesses, revenues and profit are more stable and predictable. Risk varies between:
  - **Industries.** For example, oil and gas exploration is a risky business, because drilling for oil and gas may be successful (and so provide very high profits) but may also be unsuccessful (and so result in big losses on investment). Food manufacturing is likely to be a much less risky industry, because there is fairly predictable demand for food products, although returns may be lower. Similarly, investment banking is a more risky business than retail or commercial banking.
  - **Geographical areas.** Investing in some regions of the world may be much more risky than investing in other regions, due to factors such as higher political risk or economic uncertainty.

- **Operational risks and financial reporting risks** can result in significant losses, such as losses through human error, fraud, IT system breakdown, inefficient processing systems, poor management, poor supervision or accidental damage to assets. Some companies may control these risks more effectively than others, by implementing a more effective control system.
  - When controls are strong, the risk of losses is reduced, because errors and other faults are more likely to be prevented, or detected and corrected when they occur.
  - When controls are weak, there is a much higher risk of loss. There have been notable examples of huge losses caused by inadequate risk management, such as the Deepwater Horizon oil spill in the Bay of Mexico in 2012 (also known as the Macondo blow-out), which was caused by weak operational controls and resulted in huge losses for the global oil company British Petroleum (BP).

- **Financial risks** are risks from unexpected changes in prices in financial markets, such as unexpected movements on exchange rates, interest rates, commodity prices or share prices.

Business, financial and operational risks are discussed in detail later in the text.

Risk affects business value for two reasons:

- Investors expect a higher return for investing in higher-risk business. A higher required return reduces business value.
- Risk events can result in losses that reduce business value by the amount of the loss.
4.2 The value of a risk management system

The decisions that an entity's management makes – from overall strategic decisions to day-to-day operational decisions – are critical in determining the value of the entity. An effective risk management system can enhance business value.

- Better control over financial and operational risks reduces the likelihood of losses due to risk events (such as mistakes or accidents).
- A company also manages risk by deciding what exposures to business risk it is prepared to accept. The board of directors can establish broad guidelines for the acceptable amount of risk for the company, by specifying a ‘risk appetite’. Management must then formulate and implement business strategies and make investments that are consistent with the overall risk guidelines provided by the board. In this way, the company does not unintentionally expose itself to high levels of risk in pursuit of higher profits.
- If a company explains its systems for controlling operational risks to investors, the perceived risk of investing in the company may be reduced. Lower investment risk results in higher value. Similarly, if investors believe that a company has its exposures to business risk under control, they may be more willing to invest for a lower return.

In the global financial crisis of 2007–2008, some global banks collapsed or had to be rescued through government intervention. It was suggested that a reason for the banking failures was that banks had exposed themselves to excessive risks in the financial markets, in the pursuit of high returns, without understanding the risks that they faced or the scale of their risk exposures.

4.2.1 Risk management and strategy

Decisions about the amount of risk an organisation is prepared to accept, then ensuring that strategies are consistent with risk guidelines, are an important part of enterprise risk management (ERM).

Different strategies can expose an organisation to different risks, or to varying degrees of risk. Therefore, when determining its strategy and objectives an organisation also needs to consider the types and amount of risk it is willing to accept (its risk appetite) in its pursuit of value.

Managing risk within risk appetite enhances an organisation’s ability to create, enhance and protect value for its stakeholders.

4.2.2 Enterprise risk management

We will look at risk management and control in more detail later in this text, but it is important not to overlook the importance of risk when setting strategies and objectives.

COSO (the Committee of Sponsoring Organisations of the Treadway Commission) is one of the global leaders in developing guidance on risk management, internal controls and fraud deterrence, designed to improve organisational performance and governance. In 2017 COSO published a framework document *Enterprise Risk Management – Integrating with Strategy and Performance* which highlights the need for organisations to consider risk in the strategy-setting process, and not simply in terms of its impact on existing strategies.

Risk is often evaluated in relation to its potential effect on a strategy that has already been determined (for example, what risks could affect an organisation’s ability to deliver its strategy successfully). However, COSO’s framework emphasises that there are two additional aspects of enterprise risk management which could potentially have a far greater effect on an organisation’s value:

- Assessing whether a potential strategy aligns with an organisation’s mission (its core purpose), vision (what it aims to achieve over time) and core values (its beliefs about what is good or bad, which influence its behaviour).
- Understanding the implications of choosing a given strategy – in terms of its risk profile, and the resources it will require. Enterprise risk management also helps management select strategies are consistent with its risk appetite.

The implications of this are significant. Traditionally, organisations have viewed enterprise risk management as a way of identifying, assessing and managing risks and threats to their existing strategies. However, this approach focuses primarily on managing downside risk (threats to executing a strategy successfully), but enterprise risk management (ERM) potentially has greater value to organisations through the way it can enhance strategy selection. Choosing a strategy requires structured decision-making that analyses the potential risks involved and aligns resources with an organisation’s mission and vision, in order to create value and seize competitive advantage.

ERM can play a very important role in helping organisations deliver value to their stakeholders – by ensuring that management evaluates alternative strategies properly before choosing one. For example, does management understand the risks and opportunities presented by different strategic options? Does the organisation have the resources and capabilities to be able to implement a strategy successfully?

COSO’s definition of ERM also highlights its potential role in helping organisations deliver value:

ERM is not a function or department. ‘It is the culture, capabilities, and practices that organisations integrate with strategy-setting and apply when they carry out that strategy, with the purpose of managing risk in creating, preserving and realising value.’ (COSO, (2017) Executive Summary: Enterprise Risk Management – Integrating with Strategy and Performance.)

Ultimately, all entities exist to create value for their stakeholders, but equally all entities face uncertainty. This uncertainty can present both risk and opportunity. As COSO’s definition suggests, one of the key purposes of ERM is to help entities to actively manage risk to acceptable levels in order to achieve objectives and to deliver value.

Every decision an organisation takes either increases, preserves or erodes value. Equally, though, risk is integral to the pursuit of value, and value is a function of risk and return. Consequently, companies shouldn’t try to eliminate risk completely (because doing so will prevent them from seizing opportunities which enhance value.) Instead they need to manage risk exposure across all of their operations so that they undertake the ‘right degree’ of the ‘right kinds’ of risk to pursue their strategy goals effectively.

The following diagram, from the Executive Summary of COSO’s ERM Framework, illustrates the integral role that ERM has in enabling organisations to deliver value to stakeholders.


This revised diagram, and COSO’s revised definition of ERM, emphasise that ERM is no longer focused principally on preventing risk eroding the value of a strategy, or or minimising risk to an acceptable level. Instead, ERM is integral to the strategy setting, and identifying opportunities to create and maintain value.
4.2.3 Benefits of effective Enterprise Risk Management

Already in this chapter we have seen examples of some of the strategic decisions an organisation’s management might have to make: how should the organisation be structured? How should it look to grow – organically or through making acquisitions? All organisations need to have a strategy, and to review that strategy, staying aware of the changing opportunities for creating value, and the challenges that will occur in pursuit of that value. ERM provides organisations with a framework for optimising strategy and performance.

COSO’s ERM Framework document highlights the following benefits that organisations can gain from integrating enterprise risk management across their entities. Importantly, though, these benefits highlight that the fact that risk should not be viewed solely as a constraint or challenge to setting and carrying out a strategy. Rather, the changes that underlie risks, and an organisation’s responses to risk, can also be a source of strategic opportunities and ways for an organisation to differentiate itself from its competitors and achieve a competitive advantage over them.

**Increase the range of opportunities.** By considering all reasonable possibilities – both positive and negative aspects of risk – management can identify new opportunities, as well as challenges associated with current opportunities.

For example, a food company identified that its primary consumers were becoming increasingly health conscious and changing their diet. This change indicated a potential decline in future demand for the company’s current products. In response, management identified ways to develop new products and make existing ones healthier, which allowed the company to maintain revenue from existing customers (preserving value) as well as creating additional revenue by appealing to a wider customer base (creating value).

**Identify and manage risk entity-wide.** Every organisation faces a number of risks, that can affect different parts of the organisation. Sometimes, a risk can emanate from one part of an organisation, but have an effect on another part. However, by looking across the organisation as a whole, management can identify and manage these risks to help sustain and improve performance.

For example, a bank realised that it faced a variety of risks in its trading activities, and its management responded by developing a system to analyse internal transaction and market information that was supported by relevant external information. The system provided an aggregate view of risks across all trading activities, whilst also allowing drill-down capability for individual departments, customers and traders. As a result, the bank was able to quantify the risks it faced in different areas, and to respond to them more effectively.

**Increase positive outcomes and advantage while reducing negative surprises.** ERM helps an organisation to improve its ability to identify risks and establish appropriate responses, thereby reducing negative surprises (and their related costs or losses) and allowing the organisation to benefit from advantageous developments.

Having discussions about alternatives and possibilities doesn’t mean that an organisation won’t face challenges and threats, but it should mean the organisation is less surprised by them.

For example, a manufacturing company that delivers parts to customers on a ‘just-in-time’ basis faces penalties if it fails to deliver on time. The company assessed its delivery process, by reviewing factors such as the time of day for delivery, and typical delivery routes. It used the findings to schedule deliveries outside peak traffic periods and devise alternatives to key routes. However, recognising that not all traffic delays could be avoided, the company also developed protocols to warn customers of potential delays.

In this respect, performance was improved by management influencing the risks it was able to (in relation to scheduling and route planning) and adapting to risks beyond its direct influence (delays).

**Reduce performance variability.** The challenge for some companies has less to do with surprises and more to do with variability in performance. Performing significantly ahead of schedule or beyond expectations, can cause problems just as performing below expectations does.
For example, a public transportation system can aim for better ‘on-time’ performance, but if a train departs 10 minutes early this could cause greater problems for passengers than if it departs 10 minutes late (because it could mean passengers miss the train). To manage such variability, transit schedulers build natural pauses into the timetable.

In the same way, ERM allows organisations to anticipate risks of over- or under-performance and take action to minimise disruption.

**Improve resource deployment.** Having information about risks (and which risks are most important) allows an organisation to assess resource needs and enhance resource allocation.

For example, a gas distribution company recognised that its ageing infrastructure increases the risk of a gas leak occurring. By monitoring trends in gas leak-related data, the company was able to assess the areas of greatest risk across its distribution network. Management subsequently developed a plan to replace worn-out infrastructure, and repair those sections that had useful life remaining. This approach allowed the company to maintain the integrity of the infrastructure while spreading the demand for resources over a longer period of time.

Having a greater focus on resources should mean an organisation uses its resources – money, people, time etc – more efficiently, and in turn this should improve its ability to generate value for its stakeholders.

**Enhance resource resilience.** An organisation’s medium- and long-term viability depends on its ability to anticipate and respond to change, not only to survive but also to evolve and thrive (as the food company did in response to concerns about consumers’ changing diets.) This ability to respond effectively to change becomes increasingly important as the pace of change accelerates and business complexity increases.

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**WEB SITE**

Enterprise risk management and COSO’s Framework document are considered in more detail later in this text, but for more information about COSO’s Framework document *Enterprise Risk Management – Integrating with Strategy and Performance*, visit the COSO website:


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**SECTION SUMMARY**

The value of a business depends on the perceived risk that investors and lenders see in the company. There is an inverse relationship between risk and business value. By managing risk within a well-structured framework companies are able to enhance their value to investors.

Risk and risk management are considered in detail in later chapters of this text.
5 Sustainable business value

SECTION INTRODUCTION

The aim of a company should be to grow or maintain value over the long term. To do this it must have a business that is sustainable over the long term. The concept of sustainable business brings into consideration the sustainability of different aspects of business capital, not just the monetary aspect of share value and financial capital.

This section considers the nature of sustainable business and the different (but interconnected) types of capital that help to sustain business value.

5.1 Sustainability and sustainable business

The aim of a business should be to create value for shareholders and other stakeholders over the long term, and to do this the business must be sustainable. It is fairly easy to think of shareholder value in financial terms, although sustainability is a concept that considers shareholder value in the long-term, not just short-term financial value. For other stakeholders in a business, such as customers, employees, suppliers and society as a whole, the value of a business should be considered in terms of what benefits the company gives to them. The value of these benefits cannot easily be expressed financially.

- **Sustainability** is ‘the capacity for continuance into the long term’ (Brundtland Report 1987).
- **Sustainable development** is ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’.
- **A sustainable business** is one that can continue to develop and grow over the long term, and that will not lose its ability to create value due to shortages of natural resources (such as water, energy, rare minerals and food).

You may be aware of examples of companies that appear to pursue policies and strategies for short-term profit maximisation which could be putting their long-term sustainability at risk, because they are consuming scarce natural resources at an unsustainable rate.

Value creation is not simply about increasing the financial value of a business. Businesses may create profits in a way that damages society or the environment, and the overall effect is therefore a loss in value.

**Example**

In 2013 extensive forest fires in Indonesia, started by palm oil producers clearing land for plantation, resulted in atmospheric pollution and intense smog in Indonesia, Malaysia and Singapore. The financial gains for producers in Indonesia, arising from the cheap method of clearing the land, should be set against the environmental and human damage when deciding whether value was created by the business operations of the palm oil producers.

5.2 Triple bottom line

The concept of sustainable business is that in order to achieve sustainability over the long term companies need to consider three different aspects to their business and its operations:

- **Financial returns and financial value**
- **Impact on society**
- **Impact on the natural environment**
It has been argued (for example by the Global Reporting Initiative or GRI) that companies should plan their strategies, and measure and report performance for each of these three aspects of sustainable business. Elkington developed the concept of **triple bottom line reporting**, which means that companies should report their performance in terms of:

- Financial performance
- Social aspects of performance
- Environmental aspects of performance

Financial reporting on its own is insufficient for monitoring business sustainability.

Corporate governance issues are also relevant to a discussion of sustainability. Corporate decision-making may threaten long term sustainability when one or more individuals are able to take decisions for a company that are either:

- In their personal interests but against the interests of some or all of the shareholders
- In the interests of some stakeholders but against the interests of others, or
- Damaging to the long-term sustainability of the company

### 5.3 The Six Capitals Model

In order to create and maintain a sustainable business, it has been argued that six inter-connected types of capital must be maintained. Value is enhanced by increasing the value of any of the six aspects of capital.

The Six Capitals Model was developed by the Sigma Project and then by Forum for the Future in the UK. The model provides a basis for understanding the long-term sustainability of a business. Organisations use six types of capital to deliver their products or services. A sustainable organisation needs to maintain and where possible enhance these stocks of capital assets, rather than deplete or downgrade them. The Six Capitals Model encourages businesses to broaden their understanding of sustainability, by considering not just financial issues but also how wider environmental and social issues can affect long-term profitability.

The six types of capital in the model are:

- Natural capital
- Human capital
- Intellectual capital
- Social capital
- Manufactured capital
- Financial capital

(Note: The Six Capitals Model was originally called the Five Capitals Model, with intellectual capital and human capital combined.)

#### 5.3.1 Natural capital

Natural capital is the environment. More specifically, it is the stock and flow of energy and materials that are used to produce goods and services. There are three aspects to natural capital:

- **Natural resources**, which may be either renewable (such as timber, fish and water) or non-renewable (such as oil and other fossil fuels).
- **Sinks**: These are parts of the environment such as oceans and forests that absorb, neutralise or recycle waste.
- **Processes**, such as climate regulation and the carbon cycle, and the natural food chain, that enable life to continue in a balanced way.

All businesses rely on natural capital and so have an environmental impact with their operations. All organisations, for example, consume energy and create waste.
To create a sustainable business, or enhance value over the long term, companies may need to consider policies such as:

- Substituting scarce materials with materials that are in more abundant supply
- Using renewable energy rather than fossil fuels
- Protecting or restoring ecological systems

5.3.2 Human capital

Human capital consists of people and their health, knowledge, skills and motivation, which are all needed for productive work.

Organisations depend on people to function. A healthy, motivated and skilled work force creates more value than a work force that is unhealthy and unskilled, and lacks motivation. Intellectual capital and knowledge management are important in many industries for creating value.

To maintain or enhance human capital over the long term, companies might consider policies such as:

- Educating and training the work force
- Respecting human rights, and avoiding the use of child labour or slave labour
- Ensuring that health and safety arrangements at work are sufficient
- Provide fair remuneration for employees
- In some countries encourage health education programmes

5.3.3 Intellectual capital

Intellectual capital represents the accumulated value of the knowledge acquired by the organisation. This is knowledge that the organisation will retain even when employees leave the organisation and there is loss of human capital.

Intellectual capital includes brand values, and legal rights to protect intellectual property, such as patent rights. It also includes all the knowledge that the organisation has acquired over time. The strength of companies such as Apple, Google, Facebook and Amazon, for example, depends largely on the vast amounts of knowledge they have accumulated.

5.3.4 Social capital

Social capital is any value added to the activities or outputs of an organisation by social relationships and institutions, such as human relationships, co-operation, networks, communication channels, families, communities and schools.

Organisations rely on social relationships to achieve their objectives.

- Within an organisation, social capital relates to matters such as culture and shared values, trust and communications.
- Externally, organisations rely on social structures such as legal systems, schooling systems and government services.

5.3.5 Manufactured capital

Manufactured capital is any physical means of production and infrastructure that contribute to production or service provision. It may help to think of manufactured capital as non-current assets or ‘fixed assets’, such as tools, technology, machines, buildings and all forms of infrastructure, such as transport and communications networks and waste disposal systems.

Manufactured capital is important for sustainable business in two ways.

- With efficient use of manufactured capital, an organisation can be innovative and flexible, and it can increase the speed to market of its products or services.
Technology and manufactured capital can use resources more efficiently, and so reduce resource use and improve sustainability. Manufactured capital can be enhanced by research and development, and innovation.

5.3.6 Financial capital

Financial capital consists of items that enable other types of asset to be owned and traded. It reflects the productive power of other types of capital. Financial capital includes:

- Shares
- Bonds
- Bank notes and money in bank deposits

Financial capital has traditionally been used as a measure of value in terms of reporting to shareholders, investors and government. However a sustainable business needs to understand how financial capital is increased by creating other forms of capital. If a business measures its performance in terms of financial capital, it should try to recognise all the different aspects of capital and give a financial value to them.

Financial capital is created not only by profit. It is also created or lost by factors such as:

- The creation of intangible assets such as brand and reputation
- Social and environmental costs
- Effective risk management
- High standards of corporate governance
- Ethical relationships with suppliers and customers

WEBSITE

For more information about the model, visit the Project Sigma website:

www.projectsigma.co.uk/Guidelines/Principles/Capitals/The5Capitals.asp

5.4 Sustainability and capital maintenance

A sustainable business is one that can continue in business into the long term future. To achieve sustainability, a business organisation must have regard to all aspects of capital. To create value, a business should add to its capital after recognising capital that it may have consumed or destroyed, including natural capital and human capital.

Company management, in particular, should give consideration to the Six Capitals Model and sustainability in order to achieve the business objective of enhancing shareholder value over the long term.

5.5 Sustainability reporting

In 2016, Singapore Exchange (SGX) introduced sustainability reporting on a ‘comply or explain’ basis, with the new rules taking effect for financial years ending on, or after, 31 December 2017.

Listing Rule 711A requires every listed company to prepare an annual sustainability report, in addition to its financial reports, describing how its business is conducted and the sustainability of its current business into the future.

These sustainability reports will focus on three key factors: environment, social and governance. As SGX’s sustainability reporting Practice Note (July 2016) identifies:

‘The addition of sustainability reporting to financial reporting provides a more comprehensive picture of the issuer: statements of financial position and comprehensive income provide a
snapshot of the present and an account of the past year, while sustainability reports of environmental, social and governance factors (‘ESG factors’) show the risks and opportunities within sight, managed for future returns. Taken together, the combined financial and sustainability reports enable a better assessment of the issuer’s financial prospects and quality of management.’

(http://rulebook.sgx.com/net_file_store/new_rulebooks/s/g/SGX_Mainboard_Practice_Note_7.6_July_20_2016.pdf)

The sustainability report should comprise the following primary components:

- **Material ESG factors** – Identify the factors which are material for the continuity of the issuer’s business, describe why they are material (in relation to the business, strategy and key stakeholders) and the process for selecting them.

  It is important that a company doesn’t simply consider its own internal operations, but includes all the stakeholders and processes in its value chain that contribute to its product or service; for example, suppliers and outsource partners.

  In broad terms, the following factors should be included:

  - **Environmental factors** – materials, energy, water usage, emissions, effluents and waste, as well as environmental complaint mechanisms.
  - **Social factors** – health and safety, product responsibility, employment practices, labour rights (such as collective bargaining), and supplier assessments.
  - **Governance factors** relate to the procedures that the issuer has in place to manage its economic, environmental and social performance. Anti-corruption and diversity factors could be included in governance or social factors.

- **Policies, practice and performance** – in relation to the material ESG factors identified, providing descriptive and quantitative information on each of the factors for the reporting period. Actual performance should be described against targets.

- **Targets** – The issuer should set out its targets for the forthcoming year in relation to each material ESG factor.

- **Sustainability reporting framework** – The issuer should select an appropriate sustainability reporting framework (for example, the Global Reporting Initiative’s (GRI) Sustainability Reporting Standards) to guide its reporting and disclosure. The framework selected must be named, and the issuer should explain why that framework has been chosen, and the extent to which it has been applied in the report.

- **Board statement** – Confirming that the Board has considered sustainability issues when formulating strategies, has determined the material ESG factors, and overseen the management and monitoring of those factors.

**Comply or explain:**

Where a company cannot report on any of the primary components, it must state so, and explain what it does instead, and its reasons for doing so.

**WEBSITE**

Emerging trends and current issues

In January 2018, the Committee of Sponsoring Organisations of the Treadway Commission (COSO) and the World Business Council for Sustainable Development (WBCSD) published a draft document: ‘Enterprise Risk Management – Applying enterprise risk management to environmental, social and governance-related risk’.

The document was prompted by the fact that businesses are facing an evolving array of environmental, social and governance (ESG)-related risks (for example, extreme weather events, or natural disasters) that could affect their profitability, success or even survival.

As such, there is an increasing need for companies to integrate ESG-related risks into their enterprise risk management (ERM) process. Moreover, investors are also becoming increasingly concerned about how companies are addressing long-term risks such as climate change and water scarcity. (This also reinforces SGX’s decision to introduce sustainability reporting.)

However, COSO and WBCSD argue that companies have struggled to incorporate ESG-related risks and opportunities into their risk management discussions. There remains a perception that ESG-related risks are separate from – or less significant than – conventional strategic, operational, legal or financial risks.

COSO and WBCSD’s documents aims to address this problem by developing guidance to help companies integrate ESG-related risks into the ERM process. This guidance is set out in seven stages:

1. Establish governance for effective risk management – support the board and management’s awareness of ESG-related risks, and challenge organisational bias against ESG-related issues.
2. Understand the business context and strategy – understand a company’s impact and dependencies on nature and society, in the short, medium and long term.
3. Identify ESG-related risks – analyse risks (and opportunities) arising from a company’s strategy and its business context.
4. Assess and prioritise ESG-related risks – management needs to assess the potential severity of different risks in order to prioritise the most significant ones.
5. Respond to ESG-related risks – management need to deploy an appropriate risk response based on the prioritisation of the risks.
6. Review and revise ESG-related risks – if there are changes to business strategy or the business context, how might these affect the risks?
7. Communicate and report ESG-related risks – consult with risk owners to identify the most appropriate measures for evaluating and communicating performance, internally and externally.

The draft guidance is being subjected to a consultation process during 2018.

The Preliminary draft report can be found at: http://www.wbcsd.org/Projects/Non-financial-Measurement-and-Valuation/Resources/Applying-enterprise-risk-management

Question 1.1

Explain how a policy to create a sustainable business should be of benefit to a company.
SECTION SUMMARY
This section has suggested that for sustainable development over the long term, a business should be concerned with maintaining and increasing several aspects of capital. Business performance is usually measured in terms of financial capital, but financial measures are simply a way of giving value to other aspects of capital.

The concept of sustainable business development is linked to the triple bottom line of economic, social and environmental performance. The corporate governance and risk management framework also has a role to play in ensuring the long-term sustainability of a business.

To create and maintain a sustainable business, the types of capital in The Six Capitals Model must be maintained.

Company leaders should give consideration to sustainability when formulating their strategies for the future.

6 Business value and corporate governance

SECTION INTRODUCTION
Corporate governance is concerned with the way that a company is led, and how major decisions are taken. The objective for corporate governance should be that a company is led in a way that enhances shareholder value over the long-term and (possibly) provides value to other key stakeholders. This section considers the link between good corporate governance and enhancing business value.

Corporate governance is concerned with the way that a company is governed or led 'at the top' and how major policy decisions are taken. It is also concerned with the way that a company is governed in the interests of its owners, the shareholders, whilst recognising the interests and concerns of other major stakeholders such as employees, lenders and government. The responsibility of a Board of Directors should be to enhance shareholder value over the long term, and to safeguard the assets of the business. This objective is consistent with the objective of creating a sustainable business. Before we look at corporate governance further, it is important to appreciate the various types of companies that exist.

6.1 Agency theory
Many of the issues in corporate governance relate to agency theory. A distinction should be made between:

- Agency theory, which is concerned with the relationship between the shareholders as owners of a company (the principals) and the directors as their agents.
- The law of agency, by which directors act as the agents of their company, with legal authority to bind the company in legal agreements with third parties.

Directors and the law of agency will be discussed in a later chapter. Here we shall consider agency theory and its relevance to corporate governance.

In small companies the individuals who control the business operations of the company as its executive directors are also the company’s owners. When companies are 100% owned by the individuals who direct
the company’s affairs, corporate governance should not be a matter of any concern. The directors will try to act in the best interests of the shareholders (owners) because they are the shareholders themselves.

In companies where the directors controlling the company do not own 100% of the shares, potential governance problems arise. This is because the directors may have interests that differ from those of the minority shareholders. The directors should act in the best interests of the company and all its shareholders, but in practice this may not happen.

In large public companies, the directors may have a substantial shareholding, but there is also a large number of minority shareholders who are not involved in the running of the company. They are passive investors, who have bought shares in the company perhaps through the Singapore Stock Exchange. In large public companies, there is a division between ownership of the company (by its shareholders) and control of the company (by its directors). There is a possibility that the directors will run (or ‘govern’) the company in their own best interests rather than in the best interests of the shareholders.

The separation of ownership from control, and the possibility of conflicts of interest for the Directors in control, is central to corporate governance theory.

6.1.1 Separation of ownership and management

The Companies Act (section 157A) states that the business of the company should be managed by or under the direction of the directors. The directors may exercise all the powers of a company, except for any power that the Act or the constitution (articles of association) of the company requires the company to exercise in general meeting. This is a legal embodiment of the concept of separation of ownership and control. The shareholders, as owners, need not necessarily be involved in its management as directors.

In very large public companies, it is possible for most of the Board of Directors to consist of Non-Executive Directors, who are not themselves engaged in day-to-day management of the company. The company is managed under their direction, but not by them personally. In companies where most directors are non-executive, the day-to-day management of the company is in the hands of the senior executives, some of whom may be board members.

6.1.2 Corporate governance and agency theory

Corporate governance is concerned with the way in which a company is governed, and the most influential group of individuals in governance are the Board of Directors. Agency theory is concerned with the problems arising from the separation of ownership of a company from its control. ‘Best practice’ in corporate governance seeks to reduce the problems arising from the separation of control, and establishing ways in which the Board of Directors will act in the best interests of the shareholders.

In broad terms, there are two ways in which corporate governance practice can encourage directors as agents for their shareholders (or the company) to act in the best interests of the shareholders (or company).

- **Laws and other regulations** can be established, requiring the directors to act in a particular way. An important aspect of corporate governance is the provision of relevant information to shareholders; the Board of Directors are required to present audited financial statements and a directors’ report to the shareholders, to report on the financial performance and financial position of the company. Another legal requirement is for companies to hold an Annual General Meeting, at which attending shareholders can ask questions and vote on a number of resolutions. Other requirements are placed on directors by the **Code of Corporate Governance**, which is described extensively in later chapters.

- Measures can be taken to bring the interests of directors into line with the interests of the shareholders. For example, remuneration packages for executive directors may reward directors (with bonuses or bonus shares) if the company achieves certain performance targets. Directors in public companies are also encouraged to hold shares in their company, and so be shareholders as well as directors.
As we shall see in later chapters on governance, Non-Executive Directors may be appointed to the Board. Their functions include monitoring the performance of the executive management.

As stated previously, agency theory should not be confused with the law of agency. Directors are in a certain legal position as agents of their company: this is agency law. Directors should also act in the best interests of their shareholders or the company as a whole, and not in their self-interests: this is agency theory. Corporate governance combines agency theory (a voluntary code of corporate governance, for example) with aspects of law.

**Question 1.2**

Megabank is a prominent bank with branches throughout Asia and the world. Through its network of investment offices, fund managers trade in local investment markets. Its primary listing is in Singapore although it is also listed in most of the other global stock markets including New York, Hong Kong, Frankfurt and London.

It has come to light that a Megabank trader has made a very large loss due to his practice of ignoring the company trading rules which place limits on, and also restrict, the type of financial instruments that can be traded. Senior management appears to have turned a blind eye to his activities, as long as profits were being made.

The loss has been described by one analyst as ‘a huge amount of money and enough to threaten the survival of the whole company’. It will be necessary to refinance the Megabank business and the board has recommended a rights issue. The largest single shareholder, the Shalala Pension Fund, which holds 12% of the shares, is furious about the losses and is demanding an explanation as to why internal controls were so ineffective.

Analyse the agency relationship that exists between the board of Megabank and the trustees of the Shalala Pension Fund.

### 6.2 Types of businesses

All companies in Singapore must be registered with the Accounting & Corporate Regulatory Authority (ACRA) and abide by the Companies Act, Chapter 50.

The most common route is to set up a Singapore incorporated company, which can be either private or public.

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**PART A ENHANCING BUSINESS VALUE | 1: Enhancing business value**

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6.2.1 Private companies

A private company's constitution places restrictions on the right of its shareholders to transfer their shares to others and limits the number of shareholders to fifty. There is usually a requirement that a shareholder should offer any shares that they are wishing to sell to the other shareholders first, or for the transfer to be approved by the board of directors. This is usually governed by the company's constitution (Articles and Memorandum of Association) and could also be covered in a shareholders' agreement between the shareholders' of a private company. (A shareholders' agreement is an agreement between the shareholders governing how the company is run, and it should include rules, procedures and restrictions for share transfers. However, although a shareholders' agreement is highly recommended for private companies, a company does not have to have one, and in practice only some companies have such agreements.)

Small companies

If a private company also qualifies as a small company, it will be exempt from statutory audit.

In order to qualify as a small company:

(a) The company must be a private company for the financial year in question; and
(b) The company must meet at least two of the following three criteria for the past two financial years:
   - Its total annual revenue must be less than S$10 million
   - Its total assets must be less than S$10 million
   - It must have less than 50 employees.

6.2.2 Public companies

A public company is any company that is not a private company. It must have a minimum of fifty shareholders. Such corporations may or may not be listed on a stock exchange and therefore subject to stock exchange rules. A company that is listed on a stock exchange is known as a listed company.

6.2.3 Separate legal personality of companies

The main difference between companies and other business types (such as sole traders and partnerships) is the concept of separate legal personality. This is the principle that a company is a legal entity in its own right (in the same way that a person is) and this means that it can enter into contracts in its own name, own land and other assets, sue and be sued on those contracts and have an existence until it is wound up. The fact that the company does not 'die' until it is closed down means there is perpetual succession of ownership – shares are transferred from one member to another throughout the life of the business. In certain circumstances the ‘veil of incorporation’, that separates the owners and managers of the business from the company as an entity, can be lifted and the members or company officers found liable for the debts of the company. Such instances include:

- Where the debts were taken without the expectation of the company that they could be repaid.
- Where there is intent to defraud creditors or carry on the business for fraudulent purposes.
- Where dividends are paid without sufficient funds available to pay them.
- Where the company is formed for improper means (such as to avoid a contract or debts already incurred).

6.2.4 Limited and unlimited companies

An important aspect of companies that derives from the concept of separate legal personality is the limit of members liability. Both private and public companies can be limited or unlimited by shares, and public companies may also be limited by guarantee. Companies which are limited means that only the company is liable for its debts, the liability of members is limited to their investment in share capital (or a limit that they have agreed to where the company is limited by guarantee). It should be noted that companies limited by guarantee must be not-for-profit organisations. The guarantors give an undertaking to contribute a small amount in the event of the winding up of the company.

Unlimited companies have waived the protection of limited liability and creditors can call on the members to repay the company's debts should it become insolvent.
6.2.5 Ownership structures

There are two important ownership structures to be aware of among companies in Singapore: family-owned companies, and government-linked companies.

Family-owned companies are owned and run by a family through the generations. These companies make up 70-80% of all listed companies on the Singapore Stock Exchange. Government-linked corporations (GLCs) also play a major role on the Singapore Stock Exchange. GLCs are owned fully or partially by a state-owned investment company. Singapore Airlines and SingTel are examples of a GLC.

A feature of both family-owned companies and government-linked corporations is that they have powerful shareholders.

- In family-owned companies, the major shareholder may also be the Board Chairman and Chief Executive Officer. The influence of the ‘family’ on company decisions can be very strong.
- With government-linked corporations, it should be expected that the government will avoid trying to influence Board decisions directly, although the Board of Directors will undoubtedly be aware of its major shareholder (and the shareholder's interests and concerns).

6.2.6 Company dissolution and winding up

A company will only cease to exist if it is liquidated, or ‘wound up’. There are two main types of winding up: compulsory and voluntary.

A voluntary winding up begins with a special resolution of the members to wind up the business, for example because the members no longer wish to continue with the business. If the company is in a position to pay its debts in full within 12 months then the process will be a members' voluntary winding up, in which the members appoint the liquidator and control the winding up process.

If the company is unable to pay its debts in full within 12 months then the process becomes as a creditors' voluntary winding up, and it is the creditors that appoint the liquidator and control the process.

A compulsory winding up begins with a petition to the court for the company to be wound up, and a court order.

Persons who may petition the court for a winding up order include a creditor or even the company itself. The reason for wishing to wind up the company must be stated in the petition, and possible reasons include:

- The company has resolved by special resolution resolved that it should be wound up by the court, or
- The company is unable to pay its debts, or
- The directors have acted in their own personal interests, rather than in the interests of the members as a whole, or in any other manner that is unfair or unjust to other members, or
- On 'just and equitable grounds', for example where there is a deadlock in the management of the company, or where a shareholder has been excluded from management in breach of an understanding.

The most common ground is that the company is unable to pay its debts as they fall due, so it is insolvent. This can be proved in one of the following ways:

- Where a creditor having a claim against the company for more than S$10,000.00 has served a written demand requiring payment, and the debt is not paid within 3 weeks;
- Where an execution of a judgment obtained by a creditor against a company remains unsatisfied in part or in whole;
- Where it is proved to the court's satisfaction that the company is unable to pay its debts.
Once the compulsory winding up procedure has been followed, the officers of the company (principally, its Directors) have no power to run the business and they are replaced by a liquidator.

From the commencement of a winding up, the company ceases to carry on business and no member may transfer their shares (except with the liquidator's permission in a voluntary winding up). The liquidator is responsible for obtaining as much as possible from the disposal of the company's assets and affairs to pay as much as possible to creditors of the money they are owed.

This process is complicated if company property has been improperly transferred to third parties. If this is the case then the liquidator has to recover the property before it can be realised.

Creditors may also apply for an order of judicial management. The court may grant this if it is shown that there is a reasonable prospect of rehabilitating the company or preserving all or part of the business as a going concern, or the interests of creditors would be better served by judicial management than by a winding-up (where the amount recovered for creditors is often much less than they are owed).

If the court grants an order for judicial management, the business and property of the company will be managed by a judicial manager. During the period of the judicial management claims against the company are frozen.

- The company may not be wound up.
- No receiver may be appointed.
- There is a moratorium on legal proceedings against the company or any attempts to enforce any security against company assets.

**Example**

Singapore's offshore marine group Swiber Holdings withdrew its wind up application after it was placed under judicial management by an order granted by the Singapore High Court.

In late July 2016, Swiber had made an application to wind up the company following demands from its creditors. Following the wind up application, it held discussions with its major creditor (rumoured at the time of writing to be DBS Bank), who indicated its support for an application for the company to place itself into judicial management instead.

**6.2.7 Distribution of assets in a liquidation**

In a winding up the company's property is used to pay as many of the company's liabilities as possible, and if there is any surplus this is distributed to the members according to their rights and interests in the company.

- Secured creditors can realise their security and obtain payment from the disposal of the secured asset or assets. To the extent that the proceeds from disposal are insufficient to repay the debt in full, the creditor is an unsecured creditor for the remaining amount.

- Once the secured creditors have been paid out of the assets that comprise their security, the proceeds from assets disposals are used to make the following payments, in order of priority:
  - Preferred creditors, such as the costs and expenses of the winding up, and unpaid wages and salaries of the company's employees
  - Unsecured creditors. Typically, if the proceeds from winding up are insufficient to pay the unsecured creditors in full, the proceeds are paid in proportion to the amount the creditors are owed. For example if S$1,000,000 is available to pay unsecured creditors of S$2,000,000, these creditors will receive a payment of S$0.50 for each S$1 owed.
6.3 Issues in corporate governance

Now that we have discussed the various types of company and how they are separate legal entities we can now look at some issues in corporate governance. These issues largely stem from the fact that the company cannot run itself (it has no physical presence) and therefore relies on humans to take action on its behalf. This should not always be a problem, but issues do arise when those who run the company (the Board of Directors) do so in their own interest or are not members of the company.

Some major corporate governance issues include:

- **The effectiveness of the Board of Directors.** The Board leads the company and should perform its roles and stewardship functions effectively and in the long-term interests of the company. A Board should provide ‘entrepreneurial leadership’ and ethical leadership, leading by example.

- **Interests of other stakeholders.** A company should be governed in the interests of the shareholders, but there are differing views about the extent to which other stakeholders should also be considered. The concerns of other stakeholders have implications for human capital, social capital and natural capital.

- **Risk management and controls.** The objective of a company should be to increase shareholder wealth over the long term. This requires effective management of risk in the pursuit of profit and returns on investment.

- **Accountability to shareholders.** Management should be accountable to the Board of Directors and the Board should be accountable to the shareholders. Accountability of the Board is through the annual report and accounts and other financial reports to shareholders, and the Annual General Meeting. Some people argue that companies should report on broader issues, including social and environmental issues and risk.

- **Transparency and disclosures.** The nature and quality of disclosures by the Board of Directors to shareholders and other stakeholders is also a governance issue. Good governance is associated with openness and transparency in disclosures and disclosures about a wide range of issues.

- **Remuneration and incentivising senior executives.** The performance of a company depends on the skills and effort of its senior executives, including executive directors. Another aspect of good governance is the structuring of remuneration packages that provide incentives to executives to enhance performance without overpaying.

- **Corporate social responsibility.** A well-governed company is one that should be sustainable in the long term. The Board of Directors should therefore recognise the effect of the company's operations on society, its employees and the natural environment.

The Board of Directors needs to enhance value in the medium and long term, without ignoring the importance for investors of the short term and current year financial results.
Question 1.3  Corporate governance arrangements

What do you think would be the key differences in the typical governance arrangements of a family business when compared with those of a listed company?

6.4 Problems in corporate governance

Corporate governance should be a matter of concern for all companies, but the focus of attention is on listed companies – companies whose shares are traded on the main stock market of the country. (In Singapore, corporate governance requirements are also applied by the Singapore Exchange to companies whose shares are traded on Catalist as well as Mainboard companies.) Particular areas of concern may be:

- Majority/controlling shareholders or family shareholders who run the company in their personal or family interests, regardless of the interests of the minority shareholders.
- Executive directors taking decisions that are in their personal interests rather than in the interests of the shareholders.
- Executive directors taking decisions for short-term gain rather than long-term value enhancement.
- Executive directors taking decisions only for financial gain without taking into account the impact on other stakeholders.

6.4.1 Corporate governance safeguards

Safeguards can be built into the governance structure of a company that reduce the risk of dysfunctional or unsustainable decision-making and activities. These include:

- Measures to prevent a Board of Directors being dominated by one person, such as appointing independent directors to the Board.
- Measures by the Board to monitor the operations and performance of management, through committees such as the Audit Committee.
- Reserving key decisions for the Board and not delegating them to management (such as major investment decisions, deciding the broad policy on business risk).
- Accountability, disclosures and transparency in disclosures.

These will be considered in later chapters.

SECTION SUMMARY

Corporate governance is concerned largely with the leadership provided to a company by its Board of Directors. The Board should balance the longer-term interests of the company with short-term financial requirements. Its aim should be to maintain or enhance business value over the long term and to provide safeguards against dysfunctional or unsustainable decision-making and activities.
Chapter Roundup

Business value

- Corporate governance
  - Agency theory
  - Types of company
  - Company insolvency
    - Judicial management/winding up

- Sustainability
  - Development
  - Triple Bottom Line
  - Six Capitals Model

- Return
  - Increases by...
    - Output, revenue, profits
    - NPV or DCF
    - Value > Cost

- Risk
  - Risk vs. return
  - Managing risk
    - Risk Management System

Quick Quiz

1. What aspects of a Net Present Value method of appraisal affect the quality of the appraisal?
2. What are the main strategic reasons for growth through merger and acquisition?
3. What is sustainability?
4. What are the six types of capital in the Six Capitals Model?
5. What is human capital and how might it be increased?
6. In the context of agency theory, and in relation to a company, who are the principals and who are the agents?
Answers to Quick Quiz


2. To create a company with a larger share of the market
   - To achieve cost savings
   - To grow quickly
   - To acquire valuable assets
   - To diversify
   - To reduce perceived risk

3. The capacity for continuance into the long term.

4. Natural capital
   - Human capital
   - Intellectual capital
   - Social capital
   - Manufactured capital
   - Financial capital

5. Human capital consists of a healthy, motivated and skilled work force.
   To maintain or enhance human capital over the long term, companies might consider policies such as:
   - Educating and training the work force
   - Respecting human rights, and avoiding the use of child labour or slave labour
   - Health and safety arrangements at work
   - Fair remuneration for employees

6. The principals are the shareholders of the company, and the agents are the company’s directors and senior managers.
   Agency theory is concerned with the relationship between the owners of the company (the shareholders) and the directors/management who act as their agents, and who are supposed to act in the best interests of the owners.
A sustainable business is one that achieves satisfactory financial returns in the short term, and in the long term is able to survive by maintaining or increasing its capital. Capital here is defined in terms of the Six Capitals Model: natural capital, human capital, intellectual capital, social capital, manufactured capital and financial capital.

A company needs to maintain or increase its capital over the long term in order to survive and succeed. A policy to create a sustainable business over the long term should have regard to the financial value of the company, but financial value should reflect the value of the other types of capital for the business. For example, a company that consumes non-renewable resources may be at risk of destroying more value than it creates. Companies should monitor all six aspects of capital to create a truly sustainable business.

The concept of a sustainable business recognises the importance of social and environmental change. In order to survive in the long term, companies must adapt to changes in order to maintain natural, human and social capital. Planning for change within the framework of an integrated business plan means that strategies can be co-ordinated. Strategic plans for issues such as developing human capital – a work force with the necessary skills – and protecting scarce natural resources over the long term can be related to the strategic business objectives of the company.

The two parties in the agency relationship are the agent and the principal, with the agent being accountable to the principal.

**Principals**

In this situation the trustees are the representatives of the principal, the Shalala Pension Fund. Their aim is to maximise the value of the fund, so that its members' fund values are also maximised. This means maximising the value of Shalala's investments, including its investment in Megabank. However the trustees cannot do this by managing Megabank itself. Instead Shalala's agents, Megabank's directors, run the bank on its behalf and are accountable to the pension fund.

**Agents**

As agents, the directors of Megabank are responsible for running the bank with the aim of achieving the objectives of their principals, the Shalala Pension Fund and other shareholders, with the maximisation of long-term value. The directors have a fiduciary duty to act solely in their principals' interests and are accountable to the principals for failure to achieve objectives. Here the bank has failed to achieve the objectives of maximum capital growth because of the failure of internal controls.

**Legal formalities**

In most jurisdictions, family companies are only subject to limited legal requirements affecting their governance. Listed companies face greater statutory requirements and also are subject to listing rules. These are designed to give investors assurance about the way listed companies are governed.

**Formality**

Family company boards are likely to run informally because they are not accountable to external shareholders outside the small family group. Governance arrangements for listed companies have to be much more formal, in order to ensure their accountability to external shareholders who are not involved in the company.
Composition and structure

Many family companies will have no non-executive directors. Many governance codes require listed company boards to be balanced between executive directors and non-executive directors. Family companies may not need to operate any board committees as they have enough time to discuss all important issues. Listed companies are required to have a number of committees in order to monitor the activities of executive directors.

Objectives

The boards of family companies will need to take account of the wishes of the few major shareholders. Often this group will want the company to invest for the long-term. The board of a listed company will have to address varying requirements of different shareholder groups and other stakeholders.
PART B
Investment Appraisal
This chapter considers the management of working capital, including the elements of working capital and the objectives of working capital management. It looks at how working capital needs are determined, and the choice of working capital funding strategies. The chapter also explains the cash operating cycle and the key working capital ratios.

Cash management involves looking at the various reasons for holding cash, the preparation of cash flow forecasts and relevant techniques for managing cash.

As well as working capital, a business needs to manage its resources with regard to capital investment decisions. Capital budgeting techniques include payback, discounted payback, discounted cash flow (DCF) techniques and return on capital employed.

<table>
<thead>
<tr>
<th>Topic list</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Working capital management</td>
</tr>
<tr>
<td>2 Cash management</td>
</tr>
<tr>
<td>3 Analysing the financial position</td>
</tr>
<tr>
<td>4 Investment and capital budgeting</td>
</tr>
<tr>
<td>5 Payback</td>
</tr>
<tr>
<td>6 The time value of money</td>
</tr>
<tr>
<td>7 Discounted cash flow – NPV and IRR</td>
</tr>
<tr>
<td>8 Return on capital employed</td>
</tr>
</tbody>
</table>
Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Valuation Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Analyse an organisation's cash flow and working capital requirements.</td>
<td></td>
</tr>
<tr>
<td>Analyse the current and future financial position of an organisation, using</td>
<td></td>
</tr>
<tr>
<td>techniques including ratio analysis, trend analysis, and cash flow analysis.</td>
<td></td>
</tr>
<tr>
<td>Apply capital budgeting techniques in the evaluation of capital investment decisions</td>
<td></td>
</tr>
</tbody>
</table>

1 Working capital management

SECTION INTRODUCTION
The two main objectives of working capital management are to ensure that a company has sufficient liquid resources to continue in business, and to increase its profitability.

A business needs to have clear policies for the management of each component of working capital.

While the Financial Reporting Standards do not define working capital, it typically comprises trade receivables, inventory and trade payables. Inventory comprises finished goods, work-in-progress and raw materials. The size of this net figure has a direct effect on the liquidity of an organisation.

Different industries have different optimum working capital profiles, reflecting their methods of doing business and what they are selling.

(a) Businesses with a lot of cash sales and few credit sales should have minimal accounts receivable. Supermarkets and other retailers receive much of their sales in cash, or by credit card or debit card. However, they typically buy from suppliers on credit. They may therefore have the advantage of significant cash holdings, which they may choose to invest.

(b) Businesses that exist solely to trade will only have finished goods in inventory, whereas manufacturers will have raw materials and work in progress as well. In addition, some finished goods, notably foodstuffs, have to be sold within a few days because of their perishable nature.

(c) Large companies may be able to use their strength as customers to obtain extended credit periods from their suppliers. By contrast small companies, particularly those that have recently started trading, may be required to pay their suppliers immediately while their customers still expect credit terms.

(d) Seasonal businesses might be receiving most of their sales revenue at certain times of the year, while incurring expenses throughout the year.

1.1 Objectives of working capital management

Every business needs adequate liquid resources to maintain day to day cash flow. It needs enough to pay wages, salaries and accounts payable if it is to keep its workforce and ensure its supplies.

Maintaining adequate working capital is not just important in the short term. Adequate liquidity is needed to ensure the survival of the business in the long term. Even a profitable company may fail without adequate cash flow to meet its liabilities.
PART B INVESTMENT APPRAISAL | 2: Capital budgeting and forecasting

On the other hand, an excessively conservative approach to working capital management which sees high levels of cash tied up in excessive inventories and receivables will harm profits, as investment in these assets does not yield additional return.

Working capital management is a key factor in an organisation's long-term success. A business must therefore have clear policies for the management of each component of working capital. The management of cash, marketable securities, accounts receivable, accounts payable and other means of short-term financing is the responsibility of an organisation's financial management and requires continuous supervision.

1.2 Estimating the working capital requirement

There are several methods for estimating a company's working capital requirement:

(a) The percentage of sales method

This method is based upon the assumption that the level of working capital required is directly related to the level of sales revenue.

Example

The following information relates to Company A for the year ended 20X6:

<table>
<thead>
<tr>
<th></th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed assets</td>
<td>600</td>
</tr>
<tr>
<td>Inventory</td>
<td>200</td>
</tr>
<tr>
<td>Receivables</td>
<td>140</td>
</tr>
<tr>
<td>Cash</td>
<td>20</td>
</tr>
<tr>
<td>Sundry creditors</td>
<td>(160)</td>
</tr>
<tr>
<td>Long term loans</td>
<td>(300)</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
<tr>
<td>Share capital</td>
<td>400</td>
</tr>
<tr>
<td>Reserves</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
</tbody>
</table>

Sales were $200m in the year ended 20X6 and these are expected to increase to $240m in 20X7. What is the estimated working capital requirement for 20X7, assuming that the figures given above are representative of the entire year and there is a direct relationship between sales and working capital?

Solution

The information that we have for working capital (current assets minus current liabilities) in 20X6 is $200 + $140 - $160 = $180m. If sales are going to increase by 20% ($40m/$200m) in 20X7, then we can estimate that the working capital requirement will increase by the same amount, to $216m.

(a) Regression analysis (the average relationship between sales and working capital)

If we continue to assume that there is a linear relationship between working capital and sales revenue, we can forecast the value for working capital (Y) given the value sales (X) by using simple linear regression analysis. This provides a technique for estimating values for a and b in the equation:

\[ Y = a + bX \]

Where \( Y \) = working capital

\( X \) = sales
To enable forecasts to be made, values for \( a \) and \( b \) are estimated using a series of actual data for \( X \) (sales) and \( Y \) (working capital). The forecast is then made by substituting a value for sales into the equation, and deriving a value for working capital.

The least squares method of linear regression analysis involves using the following formulae for \( a \) and \( b \) in \( Y = a + bX \):

\[
\begin{align*}
    b &= \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2} \\
    a &= \frac{\sum Y - b \sum X}{n}
\end{align*}
\]

where \( n \) is the number of pairs of data.

**Example**

Using the data below for variables \( X \) (sales) and \( Y \) (working capital), calculate an equation to determine the expected working capital requirement, using the least squares method of linear regression.

Forecast the working capital requirement for a forecast sales figure of $100,000.

<table>
<thead>
<tr>
<th>Time period</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital ($'000)</td>
<td>20</td>
<td>16</td>
<td>24</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>Sales ($'000)</td>
<td>82</td>
<td>70</td>
<td>90</td>
<td>85</td>
<td>73</td>
</tr>
</tbody>
</table>

**Solution**

**Workings**

<table>
<thead>
<tr>
<th>( X )</th>
<th>( Y )</th>
<th>( XY )</th>
<th>( X^2 )</th>
<th>( Y^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>20</td>
<td>1,640</td>
<td>6,724</td>
<td>400</td>
</tr>
<tr>
<td>70</td>
<td>16</td>
<td>1,120</td>
<td>4,900</td>
<td>256</td>
</tr>
<tr>
<td>90</td>
<td>24</td>
<td>2,160</td>
<td>8,100</td>
<td>576</td>
</tr>
<tr>
<td>85</td>
<td>22</td>
<td>1,870</td>
<td>7,225</td>
<td>484</td>
</tr>
<tr>
<td>73</td>
<td>18</td>
<td>1,314</td>
<td>5,329</td>
<td>324</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
\sum X &= 400 \\
\sum Y &= 100 \\
\sum XY &= 8,104 \\
\sum X^2 &= 32,278 \\
\sum Y^2 &= 2,040 \\
n &= 5 \text{ (There are five pairs of data for } x \text{ and } y \text{ values)}
\end{align*}
\]

\[
b = \frac{n \sum XY - \sum X \sum Y}{n \sum X^2 - (\sum X)^2} = \frac{(5 \times 8,104) - (100 \times 400)}{(5 \times 32,278) - 400^2} = \frac{40,520 - 40,000}{161,390 - 160,000} = \frac{520}{1,390} = 0.37
\]

\[
a = \frac{\sum Y - b \sum X}{n} = \frac{100}{5} - 0.37 \times \left( \frac{400}{5} \right) = -9.6
\]

\[
Y = -9.6 + 0.37X
\]

Substituting in a forecast sales figure of $100,000, the forecast working capital requirement would be:

\[-9.6 + (0.37 \times 100k) = $27,400\]
The operating cycle method

The cash operating cycle is the period of time which elapses between the point at which cash begins to be expended on the production of a product and the collection of cash from a customer.

The connection between investment in working capital and cash flow may be illustrated by means of the cash operating cycle (also called the working capital cycle, trading cycle or cash conversion cycle).

The cash operating cycle in a manufacturing business equals:

\[
\text{Cash operating cycle} = \frac{\text{The average time that raw materials remain in inventory}}{\text{Months}} \times \frac{\text{Less the time taken to pay suppliers (ie period of credit taken from suppliers)}}{\text{X}} \times \frac{\text{Plus the time taken to produce the goods}}{\text{X}} \times \frac{\text{Plus the time taken by customers to pay for the goods}}{\text{X}} \times \frac{\text{Cash cycle}}{\text{X}}
\]

If the turnover periods for inventories and accounts receivable lengthen (ie inventories and receivables levels increase), or the payment period to accounts payable shortens (ie payables level falls), then the cash operating cycle will lengthen and the investment in working capital will increase.

The length of the cash operating cycle is often dictated by the industry. For example, a construction business may have a long cash operating cycle because of the high level of work in progress. Restaurant businesses usually have short cash operating cycles because they have short inventory periods and customers pay immediately.

Note: that it is possible to have a negative cash operating cycle. The bookseller and retailer Amazon has a negative cash operating cycle because of short inventory periods and fast payments from customers.

Question 2.1

Wines Co buys raw materials from suppliers that allow Wines 2.5 months' credit. The raw materials remain in inventory for one month, and it takes Wines two months to produce the goods. The goods are sold within a couple of days of production being completed and customers take on average 1.5 months to pay.

Calculate Wines's cash operating cycle

The cash forecasting method

This method involves forecasting all cash receipts and payments expected to occur in the period. An excess of payments over receipts will represent a working capital deficit that has to be funded. We look at the preparation of a cash flow forecast in detail in Section 2 below.

1.3 Working capital investment policy

Organisations have to decide what the most important risks relating to working capital are, and therefore whether to adopt a conservative, aggressive or moderate approach to investment in working capital.

A conservative approach

A conservative working capital investment policy aims to reduce liquidity risk by holding high levels of working capital. Customers are allowed generous payment terms to stimulate demand, finished goods inventories are high to ensure availability for customers, and raw materials and work in progress are high to minimise the risk of running out of inventory and consequent downtime in the manufacturing process. Suppliers are paid promptly to ensure their goodwill, again to minimise the chance of stock-outs.
However, the cumulative effect on these policies can be that the firm carries a high burden of unproductive assets, resulting in a financing cost that can affect cash flow. A period of rapid expansion may also cause severe cash flow problems, as working capital requirements outstrip available finance. Further problems may arise from inventory obsolescence and lack of flexibility to customer demands.

**An aggressive approach**

An aggressive working capital investment policy aims to reduce this financing cost and increase cash flow by cutting inventories, speeding up collections from customers and delaying payments to suppliers.

The potential disadvantage of this policy is an increase in the chances of system breakdown through running out of inventory or loss of goodwill with customers and suppliers.

However, modern manufacturing techniques encourage inventory and work in progress reductions through just-in-time policies, flexible production facilities and improved quality management. Improved customer satisfaction through a quality and effective response to customer demand can also mean that credit periods are shortened.

**A moderate approach**

As you might expect, a moderate working capital investment policy is a middle way between the aggressive and conservative approaches.

### 1.4 Working capital financing policy

In order to understand working capital financing decisions, assets can be divided into three different types.

(a) **Non-current (fixed) assets** are long-term assets from which an organisation expects to derive benefit over a number of periods; for example, buildings or machinery.

(b) **Permanent current assets** are the amount required to meet long-term minimum needs and sustain normal trading activity; for example, inventory and the average level of accounts receivable.

(c) **Fluctuating current assets** are the current assets which vary according to normal business activity; for example, due to seasonal variations.

Fluctuating current assets together with permanent current assets form part of the working capital of the business, which may be financed by either long-term funding (including equity capital) or by current liabilities (short-term funding).

There are different ways in which the funding of the current and non-current assets of a business can be achieved by employing long- and short-term sources of funding.

**Short-term** sources of funding are usually cheaper and more flexible than long-term ones. However, short-term sources are riskier for the borrower, as interest rates are more volatile in the short term and they may not be renewed.

The diagram below illustrates three alternative policies: A, B and C. The dotted lines A, B and C are the cut-off levels between short-term and long-term funding for each of the policies respectively: assets above the dotted line are financed by short-term funding while assets below the dotted line are financed by long-term funding.
(a) Policy A can be characterised as a **conservative approach** to financing working capital. All non-current assets and permanent current assets, as well as part of the fluctuating current assets, are financed by long-term funding. There is only a need to call on short-term financing at times when fluctuations in current assets push total assets above the level of dotted line A. At times when fluctuating current assets are low and total assets fall below line A, there will be **surplus cash** which the company will be able to invest in marketable securities.

(b) Policy B is a more **aggressive approach** to financing working capital. Not only are fluctuating current assets all financed out of short-term sources, but so are some of the permanent current assets. This policy represents an **increased risk** of liquidity and cash flow problems, although potential returns will be increased if short-term financing can be obtained more cheaply than long-term finance.

(c) A **balance** between risk and return might be best achieved by the **moderate approach** of policy C, a policy of **maturity matching** in which long-term funds finance permanent assets, while short-term funds finance non-permanent assets. This means that the maturity of the funds **matches** the maturity of the assets.

**SECTION SUMMARY**

The amount tied up in working capital is equal to the value of current assets minus current liabilities. Maintaining adequate working capital is important in the long term and a business needs clear policies on its management. Methods of estimating the working capital requirement include percentage of sales, regression analysis, the operating cycle method and the cash forecasting method. Working capital investment policies may be conservative, aggressive or moderate, and financing decisions will be made accordingly.
2 Cash management

SECTION INTRODUCTION

How much cash should a company keep on hand or ‘on call’ at a bank? The more cash on hand, the easier it will be for the company to meet its bills as they fall due and to take advantage of discounts.

However, holding cash or near equivalents to cash has a cost – the loss of earnings which would otherwise have been obtained by using the funds in another way. The financial manager must try to balance liquidity with profitability.

2.1 Why organisations hold cash

The economist John Maynard Keynes identified three reasons for holding cash.

(a) Firstly, a business needs cash to meet its regular commitments of paying its accounts payable, its employees’ wages, its taxes, its annual dividends to shareholders, and so on. This reason for holding cash is what Keynes called the transactions motive.

(b) Keynes identified the precautionary motive as a second motive for holding cash. This means that there is a need to maintain a ‘buffer’ of cash for unforeseen contingencies. In the context of a business, this buffer may be provided by an overdraft facility, which has the advantage that it will cost nothing until it is actually used.

(c) Keynes identified a third motive for holding cash – the speculative motive. Some businesses hold surplus cash as a speculative asset in the hope that interest rates will rise. However, many businesses would regard large long-term holdings of cash as not prudent.

2.2 Cash flow problems

Cash flow problems can arise in various ways.

(a) Making losses

If a business is continually making losses, it will eventually have cash flow problems. If the loss is due to a large depreciation charge, the cash flow troubles might only begin when the business needs to replace non-current assets.

(b) Inflation

In a period of inflation, a business needs ever-increasing amounts of cash just to replace used-up and worn-out assets. A business can be making a profit in historical cost accounting terms, but still not be receiving enough cash to buy the replacement assets it needs.

(c) Growth

When a business is growing, it needs to acquire more non-current assets, and to support higher amounts of inventories and accounts receivable. These additional assets must be paid for somehow (or financed by accounts payable).

(d) Seasonal business

When a business has seasonal or cyclical sales, it may have cash flow difficulties at certain times of the year, when:

(i) Cash inflows are low, but

(ii) Cash outflows are high, perhaps because the business is building up its inventories for the next period of high sales.
(e) **One-off items of expenditure**

A single non-recurring item of expenditure may create a cash flow problem. Examples include the repayment of loan capital on maturity of the debt or the purchase of an exceptionally expensive item, such as a freehold property.

### 2.3 Cash flow forecasts

Forecasting expected receipts and payments, including both revenue and capital items, during a period is a vital management cash flow analysis control tool. Cash flow analysis involves an examination of a company's cash inflows and outflows during a period, beginning with an opening balance and calculating the closing balance after including all receipts and payments during the period. The cash flow forecast is the primary tool of cash flow analysis. A cash flow forecast is a statement in which estimated future **cash receipts** and **payments** are tabulated in such a way as to show the forecast **cash balance** of a business at defined intervals. For example, in December 20X2 an accounts department might wish to estimate the cash position of the business during the three following months, January to March 20X3. A cash flow forecast might be drawn up in the following format.

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated cash receipts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From credit customers</td>
<td>14,000</td>
<td>16,500</td>
<td>17,000</td>
</tr>
<tr>
<td>From cash sales</td>
<td>3,000</td>
<td>4,000</td>
<td>4,500</td>
</tr>
<tr>
<td>Proceeds on disposal of non-current assets</td>
<td></td>
<td>2,200</td>
<td></td>
</tr>
<tr>
<td><strong>Total cash receipts</strong></td>
<td>17,000</td>
<td>22,700</td>
<td>21,500</td>
</tr>
<tr>
<td><strong>Estimated cash payments</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To suppliers of goods</td>
<td>8,000</td>
<td>7,800</td>
<td>10,500</td>
</tr>
<tr>
<td>To employees (wages)</td>
<td>3,000</td>
<td>3,500</td>
<td>3,500</td>
</tr>
<tr>
<td>Purchase of non-current assets</td>
<td></td>
<td>16,000</td>
<td></td>
</tr>
<tr>
<td>Rent and rates</td>
<td>1,200</td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>Other overheads</td>
<td></td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>Repayment of loan</td>
<td>2,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total cash payments</strong></td>
<td>14,700</td>
<td>28,500</td>
<td>16,200</td>
</tr>
<tr>
<td><strong>Net surplus/(deficit) for month</strong></td>
<td>2,300</td>
<td>(5,800)</td>
<td>5,300</td>
</tr>
<tr>
<td><strong>Opening cash balance</strong></td>
<td>1,200</td>
<td>3,500</td>
<td>(2,300)</td>
</tr>
<tr>
<td><strong>Closing cash balance</strong></td>
<td>3,500</td>
<td>(2,300)</td>
<td>3,000</td>
</tr>
</tbody>
</table>

In the illustrative example above the accounts department has calculated that the cash balance at the beginning of the flow forecast period, 1 January, will be $1,200. Estimates have been made of the cash which is likely to be received by the business (from cash and credit sales, and from a planned disposal of non-current assets in February). Similar estimates have been made of cash due to be paid out by the business (payments to suppliers and employees, payments for rent, rates and other overheads, payment for a planned purchase of non-current assets in February and a loan repayment due in January).

From these estimates it is a simple step to calculate the excess of cash receipts over cash payments in each month. In some months cash payments may exceed cash receipts and there will be a **deficit** for the month; this occurs during February in the above example because of the large investment in non-current assets in that month.

The last part of the cash flow forecast above shows how the business's estimated cash balance can then be rolled along from month to month. Starting with the opening balance of $1,200 at 1 January a cash surplus of $2,300 is generated in January. This leads to a closing January balance of $3,500 which becomes the opening balance for February. The deficit of $5,800 in February throws the business's cash position into overdraft and the overdrawn balance of $2,300 becomes the opening balance for March. Finally, the healthy cash surplus of $5,300 in March leaves the business with a favourable cash position of $3,000 at the end of the flow forecast period.
2.4 The usefulness of cash flow forecasts

The cash flow forecast is one of the most important planning tools that an organisation can use. It shows the cash effect of all plans made within the flow forecasting process and its preparation can therefore lead to a modification of flow forecasts if it shows that there are insufficient cash resources to finance the planned operations.

It can also give management an indication of potential problems that could arise and allows them the opportunity to take action to avoid such problems. A cash flow forecast can show four positions. Management will need to take appropriate action depending on the potential position.

<table>
<thead>
<tr>
<th>Cash position</th>
<th>Appropriate management action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term surplus</td>
<td>Pay accounts payable early to obtain discount</td>
</tr>
<tr>
<td></td>
<td>Attempt to increase sales by increasing accounts receivable and inventories</td>
</tr>
<tr>
<td></td>
<td>Make short-term investments</td>
</tr>
<tr>
<td>Short-term deficit</td>
<td>Increase accounts payable by delaying payments to suppliers</td>
</tr>
<tr>
<td></td>
<td>Reduce accounts receivable by improving collection of overdue payments</td>
</tr>
<tr>
<td></td>
<td>Arrange a bank overdraft facility, or increase the limit on an existing facility</td>
</tr>
<tr>
<td>Long-term surplus</td>
<td>Make long-term investments</td>
</tr>
<tr>
<td></td>
<td>Expand</td>
</tr>
<tr>
<td></td>
<td>Diversify</td>
</tr>
<tr>
<td></td>
<td>Replace/update non-current assets</td>
</tr>
<tr>
<td></td>
<td>Distribute the surplus to shareholders</td>
</tr>
<tr>
<td>Long-term deficit</td>
<td>Raise long-term finance (such as via issue of share capital)</td>
</tr>
<tr>
<td></td>
<td>Consider shutdown/disinvestment opportunities</td>
</tr>
</tbody>
</table>

2.5 What to include in a cash flow forecast

A cash flow forecast is prepared to show the expected receipts of cash and payments of cash during a budget period.

It should be obvious that the profit or loss made by an organisation during an accounting period does not reflect its cash flow position for the following reasons.

(a) Not all cash receipts affect statement of profit or loss income.
(b) Not all cash payments affect statement of profit or loss expenditure.
(c) Some costs in the statement of profit or loss, such as profit or loss on sale of non-current assets or depreciation, are not cash items but are costs derived from accounting conventions.
(d) The timing of cash receipts and payments may not coincide with the recording of statement of profit or loss transactions. For example, a charge for rent or electricity might be made in respect of 20X6 and shown in the statement of profit or loss for that year, but paid in 20X7.

To ensure that there is sufficient cash in hand to cope adequately with planned activities, management should therefore prepare and pay close attention to a cash flow forecast rather than a statement of profit or loss.

Example: Cash flow forecast

Peter Chang has worked for some years as a sales representative, but has recently been made redundant. He intends to start up in business on his own account, using $15,000 of savings. Peter maintains a bank account showing a small credit balance, and he plans to approach his bank for the necessary additional finance. Peter provides the following additional information.
(a) Arrangements have been made to purchase non-current assets costing $8,000. These will be paid for at the end of September and are expected to have a five-year life, at the end of which they will possess a nil residual value.

(b) Inventories costing $5,000 will be acquired on 28 September and subsequent monthly purchases will be at a level sufficient to replace forecast sales for the month.

(c) Forecast monthly sales are $3,000 for October, $6,000 for November and December, and $10,500 from January 20X4 onwards.

(d) Selling price is fixed at the cost of inventory plus 50%.

(e) Two months' credit will be allowed to customers but only one month's credit will be received from suppliers of inventory.

(f) Running expenses, including rent but excluding depreciation of non-current assets, are estimated at $1,600 per month.

(g) Peter intends to make monthly cash drawings of $1,000.

**Required**

Prepare a cash flow forecast for the six months to 31 March 20X4.

**Solution**

The opening cash balance at 1 October is $7,000 which consists of Peter's initial $15,000 less the $8,000 expended on non-current assets purchased in September. Cash receipts from credit customers arise two months after the relevant sales.

Payments to suppliers are a little more tricky. We are told that cost of sales is $100/150 \times \text{sales}. Thus for October cost of sales is $100/150 \times $3,000 = $2,000. These goods will be purchased in October but not paid for until November. Similar calculations can be made for later months. The initial inventory of $5,000 is purchased in September and consequently paid for in October.

Remember that depreciation is not a cash flow and so is not included in a cash flow forecast.

**CASH FLOW FORECAST FOR THE SIX MONTHS ENDING 31 MARCH 20X4**

<table>
<thead>
<tr>
<th></th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Payments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppliers</td>
<td>5,000</td>
<td>2,000</td>
<td>4,000</td>
<td>4,000</td>
<td>7,000</td>
<td>7,000</td>
</tr>
<tr>
<td>Running expenses</td>
<td>1,600</td>
<td>1,600</td>
<td>1,600</td>
<td>1,600</td>
<td>1,600</td>
<td>1,600</td>
</tr>
<tr>
<td>Drawings</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>7,600</td>
<td>4,600</td>
<td>6,600</td>
<td>6,600</td>
<td>9,600</td>
<td>9,600</td>
</tr>
<tr>
<td><strong>Receipts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts receivable</td>
<td></td>
<td>–</td>
<td>–</td>
<td>3,000</td>
<td>6,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Surplus/(shortfall)</td>
<td>(7,600)</td>
<td>(4,600)</td>
<td>(3,600)</td>
<td>(600)</td>
<td>(3,600)</td>
<td>900</td>
</tr>
<tr>
<td>Opening balance</td>
<td>7,000</td>
<td>(600)</td>
<td>(5,200)</td>
<td>(8,800)</td>
<td>(9,400)</td>
<td>(13,000)</td>
</tr>
<tr>
<td>Closing balance</td>
<td>(600)</td>
<td>(5,200)</td>
<td>(8,800)</td>
<td>(9,400)</td>
<td>(13,000)</td>
<td>(12,100)</td>
</tr>
</tbody>
</table>
Question 2.2

You are presented with the following forecast cash flow data for your organisation for the period November 20X1 to June 20X2. It has been extracted from functional forecasts that have already been prepared.

<table>
<thead>
<tr>
<th></th>
<th>Nov X1</th>
<th>Dec X1</th>
<th>Jan X2</th>
<th>Feb X2</th>
<th>Mar X2</th>
<th>Apr X2</th>
<th>May X2</th>
<th>Jun X2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$80,000</td>
<td>$100,000</td>
<td>$110,000</td>
<td>$130,000</td>
<td>$140,000</td>
<td>$150,000</td>
<td>$160,000</td>
<td>$180,000</td>
</tr>
<tr>
<td>Purchases</td>
<td>$40,000</td>
<td>$60,000</td>
<td>$80,000</td>
<td>$90,000</td>
<td>$110,000</td>
<td>$130,000</td>
<td>$140,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Wages</td>
<td>$10,000</td>
<td>$12,000</td>
<td>$16,000</td>
<td>$20,000</td>
<td>$24,000</td>
<td>$28,000</td>
<td>$32,000</td>
<td>$36,000</td>
</tr>
<tr>
<td>Overheads</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$15,000</td>
<td>$15,000</td>
<td>$15,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Dividends</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>$30,000</td>
<td>$40,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You are also told the following.
(a) Sales are 40% cash, 60% credit. Credit sales are paid two months after the month of sale.
(b) Purchases are paid the month following purchase.
(c) 75% of wages are paid in the current month and 25% the following month.
(d) Overheads are paid the month after they are incurred.
(e) Dividends are paid three months after they are declared.
(f) Capital expenditure is paid two months after it is incurred.
(g) The opening cash balance is $15,000.

The managing director is pleased with the above figures, as they show sales will have increased by more than 100% in the period under review. In order to achieve this they have arranged a bank overdraft with a ceiling of $50,000 to accommodate the increased inventory levels and wage bill for overtime worked.

Required

(a) Prepare a cash flow forecast for the six-month period January to June 20X2.
(b) Comment on your results in the light of the managing director's comments and offer advice.

2.6 Methods of easing cash shortages

The steps that are usually taken by a company when a need for cash arises, and when it cannot obtain resources from any other source, such as a loan or an increased overdraft, are as follows.

(a) **Postponing capital expenditure**

Some new non-current assets may be needed for the development and growth of the business, but some capital expenditures may be postponed without serious consequences. If a company's policy is to replace company cars every two years, but the company is facing a cash shortage, it might decide to replace cars every three years.

(b) **Accelerating cash inflows which would otherwise be expected in a later period**

One way would be to press accounts receivable for earlier payment. Often, this policy will result in a loss of goodwill and problems with customers. It might be possible to encourage credit customers to pay more quickly by offering discounts for earlier payment.

(c) **Reversing past investment decisions by selling assets previously acquired**

Some assets are less crucial to a business than others. If cash flow problems are severe, the option of selling investments or property might have to be considered. Sale and leaseback of property could also be considered.

(d) **Negotiating a reduction in cash outflows to postpone or reduce payments**

There are several ways in which this could be done.
(i) **Longer credit** might be taken from suppliers. Such an extension of credit would have to be negotiated carefully: there would be a risk of having further supplies refused.

(ii) **Loan repayments** could be rescheduled by agreement with a bank.

(iii) A **deferral** of the payment of company tax might be agreed with the taxation authorities. However, they will charge interest on the outstanding amount of tax.

(iv) **Dividend payments** could be **reduced**. Dividend payments are discretionary cash outflows, although a company's directors might be constrained by shareholders' expectations, so that they feel obliged to pay dividends even when there is a cash shortage.

---

**SECTION SUMMARY**

Three reasons for holding cash have been identified – the transactions motive, the precautionary motive and the speculative motive. Cash flow problems can arise for a variety of reasons, and businesses prepare cash flow forecasts which show the expected receipts and payments, including both revenue and capital items, during a forecast period. The cash flow forecast is one of the most important planning tools that a business will employ, as it can highlight potential liquidity problems in advance of them actually occurring. When a cash shortage does arise, a variety of methods can be employed, such as postponing capital expenditure, negotiating a delay in payments to suppliers or revised loan payment terms.

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3 Analysing the financial position

**SECTION INTRODUCTION**

If you were to look at a set of company accounts, how would you decide whether the company was doing well or badly? Or whether it was financially strong or financially vulnerable? And what would you be looking at in the figures to help you to make your judgement?

Ratio analysis involves comparing one figure against another to produce a ratio, and assessing whether the ratio indicates a weakness or strength in the company's affairs.

---

3.1 The broad categories of ratios

In the context of cash and working capital management, we will look at ratios in the following categories.

- Long-term solvency and stability
- Short-term solvency and liquidity
- Efficiency (turnover ratios)

Within each heading we will identify a number of standard measures or ratios that are normally calculated and generally accepted as meaningful indicators. However, each individual business must be considered separately, and a ratio that is meaningful for a manufacturing company may be completely meaningless for a financial services institution.

The key to obtaining meaningful information from ratio analysis is **comparison**. This may involve comparing ratios over time within the same business to establish whether things are improving or declining, and comparing ratios between similar businesses to see whether the company you are analysing is better or worse than average within its specific business sector.
3.2 Long-term solvency: gearing and interest cover ratios

Debt ratios are concerned with how much the company owes in relation to its size, whether it is getting into heavier debt or improving its situation, and whether its debt burden seems heavy or light.

(a) When a company is heavily in debt, banks and other potential lenders may be unwilling to advance further funds.

(b) When a company is earning only a modest PBIT, and has a heavy debt burden, there will be very little profit left over for shareholders after the interest charges have been paid. Therefore, if interest rates were to go up (on bank overdrafts for example), or the company were to borrow even more, it might soon be incurring interest charges in excess of PBIT. This might eventually lead to the liquidation of the company.

Points (a) and (b) above are two big reasons why companies should keep their debt burden under control. There are two ratios that are particularly worth looking at: the gearing ratio and interest cover.

3.3 Gearing

Gearing is concerned with a company's long-term capital structure. We can think of a company as consisting of non-current assets and net current assets (ie working capital, which is current assets minus current liabilities). These assets must be financed by long-term capital of the company, which is one of two things.

(a) Equity, which can be divided into:
   (i) Ordinary share capital and share premium
   (ii) Cumulative irredeemable preference share capital and share premium
   (iii) Reserves (eg retained earnings, revaluation reserve)

(b) Long-term debt, including:
   (i) Pension liabilities
   (ii) Long term overdrafts
   (iii) Redeemable or cumulative irredeemable preference shares

One way of calculating the capital gearing ratio is as follows.

\[
\text{Gearing} = \frac{\text{Long term debt}}{\text{Equity}} \times 100\%
\]

There is no absolute limit to what a gearing ratio ought to be. A company with a gearing ratio of more than 50% is said to be highly geared (whereas low gearing means a gearing ratio of less than 50%). Many companies are highly geared, but if a highly geared company is becoming increasingly highly geared, it is likely to have difficulty in the future when it wants to borrow even more, unless it can also boost its shareholders' capital, either with retained profits or by a new share issue.

3.4 Interest cover

The interest cover ratio shows whether a company is earning enough profits before interest and tax to pay its interest costs comfortably, or whether its interest costs are high in relation to the size of its profits, so that a fall in PBIT would then have a significant effect on profits available for ordinary shareholders.

\[
\text{Interest cover} = \frac{\text{Profit before interest and tax}}{\text{Interest charges}}
\]
Ideally interest cover should be at least one. Some consider an interest cover of two times or less to be low, and believe that it should really exceed three times before the company's interest costs are considered to be within acceptable limits. However, the level of acceptable interest cover varies depending on the industry in which the company operates.

3.5 Short-term solvency and liquidity

The level of debt is an important aspect of a company's performance, but it does not address directly the key issue of liquidity, the amount of cash a company can put its hands on quickly to settle its debts and other expected payments.

Liquid funds consist of:

(a) Cash
(b) Short-term investments for which there is a ready market
(c) Fixed-term deposits with a bank or other financial institution, for example, a six-month high-interest deposit with a bank
(d) Trade receivables (because they will pay what they owe within a reasonably short period of time)
(e) Bills of exchange receivable (because like ordinary trade receivables, these represent amounts of cash due to be received within a relatively short period of time)

In summary, liquid assets are current asset items that will or could soon be converted into cash, and cash itself.

In general, obtaining liquid funds depends on making sales revenue and profits.

3.6 Liquidity ratios: current ratio and quick ratio

The current ratio

The current ratio is the standard test of liquidity.

\[
\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}
\]

A company should have enough current assets that give a promise of ‘cash to come’ to meet its commitments to pay its current liabilities. Superficially, a ratio in excess of 1 implies that the organisation has enough cash and near-cash assets to satisfy its immediate liabilities. However, interpretation needs to be conducted with care. Too high a ratio implies that too much cash may be tied up in receivables and inventories. Again, what is ‘comfortable’ varies between different types of business.

The quick ratio

Companies are unable to convert all their current assets into cash very quickly. In some businesses where inventory turnover is slow, most inventories are not very liquid assets, and the cash cycle is long. For these reasons, we calculate an additional liquidity ratio, known as the quick ratio or acid test ratio.

\[
\text{Quick ratio or acid test ratio} = \frac{\text{Current assets} - \text{inventories}}{\text{Current liabilities}}
\]

This ratio should ideally be at least 1 for companies with a slow inventory turnover. For companies with a fast inventory turnover, a quick ratio can be less than 1 without suggesting that the company is in cash flow difficulties.
3.7 Efficiency ratios: control of receivables and inventories

A rough measure of the average length of time it takes for a company's customers to pay what they owe is the **accounts receivable collection period**, known as **receivables days**.

The estimated average receivables days is calculated as:

\[
\text{Trade receivables} \times \frac{\text{Revenue}}{365 \text{ days}}
\]

Sales are usually made on normal credit terms of payment within 30 days. A collection period significantly in excess of this might be representative of poor management of funds of a business. However, some companies must allow generous credit terms to win customers. Exporting companies in particular may have to carry large amounts of receivables, and so their average collection period might be well in excess of 30 days. Equally, if the majority of an entity's sales are cash sales (e.g., for a retailer), receivables days will be very low.

The **trend of the collection period over time** is probably the best guide. If the collection period is increasing year on year, this is indicative of a poorly managed credit control function (and potentially therefore a poorly-managed company).

The collection period for various types of companies might be as follows.

<table>
<thead>
<tr>
<th>Company</th>
<th>Trade receivables sales</th>
<th>Receivables days (× 365)</th>
<th>Previous year</th>
<th>Receivables days (× 365)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket</td>
<td>$5.016m</td>
<td>6.4 days</td>
<td>$3.977m</td>
<td>5.0 days</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>$458.3m</td>
<td>81.2 days</td>
<td>$272.4m</td>
<td>78.0 days</td>
</tr>
<tr>
<td>Sugar refiner and seller</td>
<td>$306.4m</td>
<td>29.1 days</td>
<td>$287m</td>
<td>31.1 days</td>
</tr>
</tbody>
</table>

The differences in collection period reflect the differences between the types of business. Supermarkets have hardly any trade receivables at all, whereas the manufacturing companies have far more.

3.8 Inventory days

Another ratio worth calculating is the inventory turnover period, or **inventory days**. This is another estimated figure which indicates the average number of days that items of inventory are held for.

The **inventory days are calculated as**:

\[
\frac{\text{Inventory}}{\text{Cost of sales}} \times 365 \text{ days}
\]

This is another measure of how vigorously a business is trading. Increasing inventory days from one year to the next indicates:

(a) A slowdown in trading or
(b) A build-up in inventory levels, perhaps suggesting that the investment in inventories is becoming excessive

Generally, the lower the inventory days the better, but several aspects of inventory-holding policy have to be balanced.

(a) Lead times
(b) Seasonal fluctuations in orders
(c) Alternative uses of warehouse space
(d) Bulk-buying discounts
(e) Likelihood of inventory perishing or becoming obsolete

If we add together the inventory days and receivables days this should give us an indication of how soon inventory is converted into cash. Both receivables days and inventory days therefore give us a further indication of the company’s liquidity.

3.9 Payables days

Payables days is ideally calculated by the formula:

\[
\text{Payables days} = \frac{\text{Trade accounts payable}}{\text{Purchases}} \times 365 \text{ days}
\]

It is rare to find a figure for purchases in a company’s accounts and so cost of sales serves as an approximation. Payable days often help to assess a company’s liquidity; an increase is often a sign of lack of long-term finance or poor management of current assets, resulting in the use of extended credit from suppliers or the use of an increased bank overdraft.

**Question 2.3**

Liquidity and working capital

Calculate liquidity and working capital ratios from the accounts of TEB Co, a business which provides service support (cleaning etc) to customers worldwide. Comment on the results of your calculations.

<table>
<thead>
<tr>
<th></th>
<th>20X7</th>
<th>20X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$2,176.2</td>
<td>$2,344.8</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>(1,659.0)</td>
<td>(1,731.5)</td>
</tr>
<tr>
<td>Gross profit</td>
<td>517.2</td>
<td>613.3</td>
</tr>
<tr>
<td>Current assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventories</td>
<td>42.7</td>
<td>78.0</td>
</tr>
<tr>
<td>Receivables (note 1)</td>
<td>378.9</td>
<td>431.4</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>205.2</td>
<td>145.0</td>
</tr>
<tr>
<td></td>
<td>626.8</td>
<td>654.4</td>
</tr>
<tr>
<td>Current liabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loans and overdrafts</td>
<td>32.4</td>
<td>81.1</td>
</tr>
<tr>
<td>Tax payable</td>
<td>67.8</td>
<td>76.7</td>
</tr>
<tr>
<td>Dividend</td>
<td>11.7</td>
<td>17.2</td>
</tr>
<tr>
<td>Payables (note 2)</td>
<td>487.2</td>
<td>467.2</td>
</tr>
<tr>
<td></td>
<td>599.1</td>
<td>642.2</td>
</tr>
<tr>
<td>Net current assets</td>
<td>27.7</td>
<td>12.2</td>
</tr>
</tbody>
</table>

**Notes**

1. Trade receivables
2. Trade payables

3.10 Over-capitalisation and working capital

If there are excessive inventories, accounts receivable and cash, and very few accounts payable, there will be an overinvestment by the company in current assets. Working capital will be excessive and the company in this respect will be over-capitalised.
2: Capital budgeting and forecasting

## PART B INVESTMENT APPRAISAL

### Indicators of over-capitalisation

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales/working capital</td>
<td>Compare with previous years or similar companies. A low or falling ratio may indicate over-capitalisation.</td>
</tr>
<tr>
<td>Liquidity ratios</td>
<td>Compare with previous years or similar companies.</td>
</tr>
<tr>
<td>Turnover periods</td>
<td>Long turnover periods for inventory and accounts receivable or short credit period from suppliers may be unnecessary. Working capital requirements can be reduced by improving these turnover times.</td>
</tr>
</tbody>
</table>

### 3.11 Overtrading

In contrast with over-capitalisation, overtrading happens when a business tries to **do too much too quickly** with **too little long-term capital**, so that it is trying to support too large a volume of trade with the capital resources at its disposal.

Even if an overtrading business operates at a profit, it could easily run into serious trouble because it is **short of cash**. Such liquidity troubles stem from the fact that it does not have enough capital to provide the cash to pay its debts as they fall due.

Symptoms of overtrading are as follows.

(a) There is a **rapid increase** in **sales revenue**.

(b) There is a **rapid increase** in the **volume of current assets** and possibly also non-current assets. **Inventory turnover** and **accounts receivable turnover** might slow down, in which case the rate of increase in inventories and accounts receivable would be even greater than the rate of increase in sales.

(c) There is only a **small increase** in **equity capital** (perhaps through retained profits). Most of the increase in assets is financed by credit, especially:

   (i) **Trade accounts payable** – the payment period to accounts payable is likely to lengthen

   (ii) A **bank overdraft**, which often reaches or even exceeds the limit of the facilities agreed by the bank

(d) Some **debt ratios** and **liquidity ratios** alter dramatically.

   (i) The **proportion** of **total assets** financed by proprietors' capital falls, and the proportion financed by credit rises.

   (ii) The **current ratio** and the **quick ratio** fall.

   (iii) The business might have a **liquid deficit**; that is, an excess of current liabilities over current assets.

### Example: Overtrading

Great Ambition Co appoints a new managing director who has great plans to expand the company. They want to increase revenue by 100% within two years, and to do this they employ extra sales staff. They recognise that customers do not want to have to wait for deliveries, and so they decide that the company must build up its inventory levels. There is a substantial increase in the company's inventories. These are held in additional warehouse space which is now rented. The company also buys new cars for its extra sales representatives.

The managing director's policies are immediately successful in boosting sales, which double in just over one year. Inventory levels are now much higher, but the company takes longer credit from its suppliers, even though some suppliers have expressed their annoyance at the length of time they must wait for payment. Credit terms for accounts receivable are unchanged, and so the volume of accounts receivable, like the volume of sales, rises by 100%.
In spite of taking longer credit, the company still needs to increase its overdraft facilities with the bank, which are raised from a limit of $40,000 to one of $80,000. The company is profitable, and retains some profits in the business, but profit margins have fallen. **Gross profit margins** are lower because some prices have been reduced to obtain extra sales. **Net profit margins** are lower because overhead costs are higher. These include sales representatives’ wages, car expenses and depreciation on cars, warehouse rent and additional losses from having to write off out of date and slow-moving inventory items.

The statement of financial position of the company might change over time from (A) to (B).

<table>
<thead>
<tr>
<th>Statement of financial position (A)</th>
<th>Statement of financial position (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$160,000</td>
<td>$210,000</td>
</tr>
<tr>
<td>Non-current assets</td>
<td></td>
</tr>
<tr>
<td>Current assets</td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>$150,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>$135,000</td>
</tr>
<tr>
<td>Cash</td>
<td>$1,000</td>
</tr>
<tr>
<td>Total assets</td>
<td>$285,000</td>
</tr>
<tr>
<td>Share capital</td>
<td>$10,000</td>
</tr>
<tr>
<td>Retained profits</td>
<td>$205,000</td>
</tr>
<tr>
<td>Total equity</td>
<td>$215,000</td>
</tr>
<tr>
<td>Current liabilities</td>
<td></td>
</tr>
<tr>
<td>Bank</td>
<td>$80,000</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>$200,000</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>$280,000</td>
</tr>
<tr>
<td>Total equity and liabilities</td>
<td>$495,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statement of profit or loss (A)</th>
<th>Statement of profit or loss (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Sales</td>
<td></td>
</tr>
<tr>
<td>Gross profit</td>
<td>$300,000</td>
</tr>
<tr>
<td>Net profit</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

In situation (B), the company has reached its overdraft limit and has four times as many accounts payable as in situation (A) but with only twice the sales revenue. **Inventory levels** are much higher, and **inventory turnover** is lower.

The company is overtrading. If it had to pay its next trade account, or salaries and wages, before it received any income, it could not do so without the bank allowing it to exceed its overdraft limit. The company is profitable, although profit margins have fallen, and it ought to expect a prosperous future. But if it does not sort out its cash flow and liquidity, it will not survive to enjoy future profits.

Suitable solutions to the problem would be implementing measures to reduce the degree of overtrading.

(a) **New capital** from the shareholders could be injected.

(b) **Better control** could be applied to inventories and accounts receivable. The company could abandon ambitious plans for increased sales and more non-current asset purchases until the business has had time to consolidate its position, and build up its capital base with retained profits.

A business seeking to increase its revenue too rapidly without an adequate capital base is not the only cause of overtrading. **Other causes** are as follows.

(a) When a business repays a loan, it often replaces the old loan with a new one (refinancing). However a business might repay a loan without replacing it, with the consequence that it has less long-term capital to finance its current level of operations.

(b) A business might be profitable, but in a period of inflation, its retained profits might be insufficient to pay for replacement non-current assets and inventories, which now cost more because of inflation.
SECTION SUMMARY

The key to obtaining meaningful information from ratio analysis is comparison. This may involve comparing ratios over time within the same business, or comparing ratios between similar businesses. This section discussed working capital ratios in the following categories:

- Long term solvency and stability – gearing and interest cover
- Short term solvency and liquidity – current ratio and quick ratio
- Efficiency (turnover ratios) – receivables days, inventory days and payables days

It also considered overcapitalisation and overtrading. If there are excessive inventories, accounts receivable and cash, and very few accounts payable, there will be an overinvestment by the company in current assets and the company is said to be overcapitalised. In contrast with over-capitalisation, overtrading happens when a business tries to do too much too quickly with too little long-term capital.

4 Investment and capital budgeting

SECTION INTRODUCTION

Investment in working capital arises from the need to pay out money for resources (such as raw materials) before it can be recovered from sales of the finished product or service. The funds are therefore only committed for a short period of time. Investment will also be made in non-current assets, involving a significant amount of time between the commitment of funds and recovering the investment.

Investment by commercial organisations might include investment in:
- Plant and machinery
- Research and development
- Advertising
- Warehouse facilities

Various capital budgeting techniques assess the financial aspects of such capital investment.

The capital budget will normally be prepared to cover a longer period than sales, production and resource budgets, say from three to five years, although it should be broken down into periods matching those of other budgets.

Budget limits or constraints might be imposed internally or externally.

(a) The imposition of internal constraints, which are often imposed when managerial resources are limited, is known as soft capital rationing.

(b) Hard capital rationing occurs when external limits are set, perhaps because of scarcity of financing, high financing costs or restrictions on the amount of external financing an organisation can seek.

Projects can arise from top management policy decisions or from sources such as mandatory government regulations (health, safety and welfare capital expenditure), or be appraised using the techniques covered here.
Overall responsibility for **authorisation and monitoring** of capital expenditure is, in most large organisations, the **responsibility of a committee**. As an example:

- Expenditure up to S$75,000 may be approved by individual divisional managers.
- Expenditure between S$75,000 and S$150,000 may be approved by divisional management.
- Expenditure over S$150,000 may need to be approved by the board of directors.

The following sections consider how capital investment decisions are assessed in terms of their costs and benefits. The key capital budgeting techniques are:

- The payback period
- Net present value
- Discounted payback period
- Internal rate of return (IRR)
- Return on capital employed (ROCE) (or Accounting Rate of Return – ARR)

The simpler approaches (accounting rate of return and payback) take no account of when costs or revenues are incurred or received. However, discounted cash flow approaches (net present value and discounted payback) take a more sophisticated approach, being based on the principle that a dollar received in the future is not worth as much as a dollar received today.

### SECTION SUMMARY

As well as working capital, businesses invest capital in longer term investment projects that also need careful evaluation and management. Capital investment decisions are generally made in an environment of constraints (such as on the amount that managers can spend from internal resources, or on the amount of financing that is available) and so a range of capital budgeting techniques are employed when evaluating capital investment decisions, in order to decide on their financial impact and acceptability.

### 5 Payback

#### SECTION INTRODUCTION

Payback is the time it takes the cash inflows from a capital investment project to equal the cash outflows, usually expressed in years. It is the length of time before the cash inflows from an investment pay back the investment outlay.

Payback is often used as a ‘first screening method’ in investment appraisal. By this, we mean that when a capital investment project is being considered, the first question to ask is: ‘How long will it take to pay back its cost?’

However, a project should not be evaluated on the basis of payback alone. If a project gets through the payback test, it ought then to be evaluated with a more sophisticated investment appraisal technique that takes into consideration the total return over the full investment period.
The reason why payback should not be used on its own to evaluate capital investments should seem fairly obvious if you look at the figures below for two mutually exclusive projects.

<table>
<thead>
<tr>
<th></th>
<th>Project P</th>
<th>Project Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital investment</td>
<td>$60,000</td>
<td>$60,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profits before depreciation (a rough approximation of cash flows)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>$20,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Year 2</td>
<td>$30,000</td>
<td>$20,000</td>
</tr>
<tr>
<td>Year 3</td>
<td>$40,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Year 4</td>
<td>$50,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>Year 5</td>
<td>$60,000</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

Project P pays back in year 3 (about one quarter of the way through year 3). Project Q pays back halfway through year 2. Using payback alone to judge capital investments, project Q would be preferred.

However, the returns from project P over its life are much higher than the returns from project Q. Project P will earn total profits before depreciation of $140,000 on an investment of $60,000. Project Q will earn total profits before depreciation of only $25,000 on an investment of $60,000.

There are a number of serious drawbacks to the payback method.

(a) It **ignores the timing** of cash flows within the payback period.
(b) It ignores the cash flows after the end of the payback period and therefore the total project return.
(c) It **ignores the time value of money** (a concept incorporated into more sophisticated appraisal methods). This means that it does not take account of the fact that $1 today is worth more than $1 in one year's time. An investor who has $1 today can either consume it immediately or alternatively can invest it at the prevailing interest rate, say 5%, to get a return of $1.05 in a year's time.
(d) Payback is **unable to distinguish between projects** with the same payback period.
(e) The choice of any **cut-off** payback period by an organisation is **arbitrary**.
(f) It may lead to **excessive investment** in **short-term projects**.
(g) It takes account of the risk of the timing of cash flows but not the **variability** of those cash flows.

In spite of its limitations, the payback method continues to be popular, and the following points can be made in its favour.

(a) It is simple to calculate and simple to understand. This may be important when management resources are limited. It is similarly helpful in communicating information about minimum requirements to managers responsible for submitting projects.
(b) It uses cash flows rather than accounting profits.
(c) It can be used as a screening device as a first stage in eliminating obviously inappropriate projects prior to more detailed evaluation.
(d) The fact that it tends to bias in favour of short-term projects means that it tends to minimise both financial and business risk.
(e) It can be used when there is a capital rationing situation to identify those projects which generate additional cash for investment quickly.

A more scientific method of investment appraisal is the use of discounted cash flow (DCF) techniques. Before DCF can be understood it is necessary to know something about the time value of money.
SECTION SUMMARY

The payback method of investment appraisal is a popular appraisal technique, and is particularly relevant if there are liquidity problems, or if distant forecasts are very uncertain. It does have several serious drawbacks however, and so is often used as an initial 'screening' device, before more detailed evaluation is undertaken, using more sophisticated techniques.

6 The time value of money

SECTION INTRODUCTION

When capital expenditure projects are evaluated, it is appropriate to decide whether the investment will make enough profits to allow for the 'time value' of capital tied up. The time value of money reflects people's preference for $100 now over $100 at some time in the future. Discounted cash flow is an evaluation technique which takes into account the time value of money.

Money is spent to earn a profit. For example, if an item of machinery costs $6,000 and would earn profits (ignoring depreciation) of $2,000 per year for three years, it would not be worth buying because its total profit ($6,000) would only just cover its cost.

In addition, the size of profits or return must be sufficiently large to justify the investment. In the example given in the previous paragraph, if the machinery costing $6,000 made total profits of $6,300 over three years, the return on the investment would be $300, or an average of $100 per year. Depending upon the prevailing interest rates available on bank deposits, this might prove to be a very low return.

We must therefore recognise that if a capital investment is to be worthwhile, it must earn at least a minimum profit or return so that the size of the return will compensate the investor (the business) for the length of time which the investor must wait before the profits are made.

6.1 Discounting and compound interest

If we were to invest $1,000 now in a bank account which pays interest of 10% per annum, with interest calculated once each year at the end of the year, we would expect the following returns.

(a) After one year, the investment would rise in value to:

$1,000 plus 10% = $1,000 (1 + 10%) = $1,000 \times (1.10) = $1,100

Interest for the year would be $100. We can say that the rate of simple interest is 10%.

(b) If we keep all our money in the bank account, after two years the investment would now be worth:

$1,100 \times 1.10 = $1,210.

Interest in year two would be $(1,210 – 1,100) = $110.

Another way of writing this would be to show how the original investment has earned interest over two years, as follows.

$1,000 \times (1.10) \times (1.10) = $1,000 \times (1.10)^2 = $1,210
(c) Similarly, if we keep the money invested for a further year, the investment would grow to 
$1,000 \times (1.10) \times (1.10) \times (1.10) = $1,000 \times (1.10)^3 = $1,331$ at the end of the third year. 
Interest in year three would be $(1,331 - 1,210) = $121$.

6.2 Compound interest

The amount of interest earned each year gets larger because we earn interest on both the original capital 
and also on the interest now earned in earlier years.

A formula which can be used to show the value of an investment after several years which earns 
compound interest is:

$$S = P(1 + r)^n$$

where $S =$ future value of the investment after $n$ years

$P =$ the amount invested now

$r =$ the rate of interest, as a proportion. For example, 10\% = 0.10, 25\% = 0.25, 8\% = 0.08

$n =$ the number of years of the investment

For example, suppose that we invest $2,000$ now at 10\%. What would the investment be worth after the 
following number of years?

(a) Five years

(b) Six years

The future value of $1$ after $n$ years at 10\% interest is given in the following table.

<table>
<thead>
<tr>
<th>$n$</th>
<th>$(1 + r)^n$ with $r = 0.10$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.100</td>
</tr>
<tr>
<td>2</td>
<td>1.210</td>
</tr>
<tr>
<td>3</td>
<td>1.331</td>
</tr>
<tr>
<td>4</td>
<td>1.464</td>
</tr>
<tr>
<td>5</td>
<td>1.611</td>
</tr>
<tr>
<td>6</td>
<td>1.772</td>
</tr>
<tr>
<td>7</td>
<td>1.949</td>
</tr>
</tbody>
</table>

The solution is as follows.

(a) After 5 years: 

$$S = 2,000 \times 1.611 = 3,222$$

(b) After 6 years: 

$$S = 2,000 \times 1.772 = 3,544$$

The principles of compound interest are used in DCF, except that discounting is compounding in reverse.

6.3 Discounting

With discounting, we look at the size of an investment after a certain number of years, and calculate how 
much we would need to invest now to build up the investment to that size, given a certain rate of interest.

With discounting, we can calculate how much we would need to invest now at an interest rate of, say, 6\% to 
build up the investment to (say) $5,000 after four years.

The compound interest formula shows how we calculate a future sum $S$ from a known current investment 
$P$, so that if $S = P \times (1 + r)^n$, then:

$$P = \frac{S}{(1 + r)^n} = S \times \frac{1}{(1 + r)^n}$$
This is the basic formula for discounting, which is sometimes written as: \[ P = S(1 + r)^n \]

\[ (1 + r)^n \] and \[ \frac{1}{(1 + r)^n} \] mean exactly the same thing.

To build up an investment to $5,000 after four years at 6% interest, we would need to invest now:

\[ P = \frac{S}{(1 + r)^n} = \frac{5,000}{(1 + 0.06)^4} = 5,000 \times 0.792 = $3,960 \]

Question 2.4

Discounting

(a) A businessperson wants to have $13,310 in three years' time, and has decided to put some money aside now which will earn interest of 10% per annum. How much money must they put aside in order to build up the investment to $13,310 as required?

(b) Another businessperson has two sons who are 18 years and 17 years old. He wishes to give them $10,000 each on their 20th birthdays, and wants to know how much to invest now at 8% interest to pay this amount.

The following table is relevant, giving values \( r = 8\% \) or 0.08.

<table>
<thead>
<tr>
<th>Year</th>
<th>Future value of $1 ((1 + r)^n)</th>
<th>Present value of $1 (\frac{1}{(1 + r)^n})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.080</td>
<td>0.926</td>
</tr>
<tr>
<td>2</td>
<td>1.166</td>
<td>0.857</td>
</tr>
<tr>
<td>3</td>
<td>1.260</td>
<td>0.794</td>
</tr>
<tr>
<td>4</td>
<td>1.360</td>
<td>0.735</td>
</tr>
</tbody>
</table>

SECTION SUMMARY

The time value of money is an important consideration in decision making. Discounted cash flow techniques take account of the time value of money – the fact that $1 received now is worth more because it could be invested to become a greater sum at the end of a year, and even more after the end of two years, and so on. DCF techniques use cash figures before depreciation in their calculations.

7 Discounted cash flow – NPV and IRR

SECTION INTRODUCTION

DCF can be used in either of two ways: the net present value (NPV) method, or the internal rate of return (IRR) method.

Discounted cash flow (DCF) is a technique of evaluating capital investment projects, using discounting arithmetic to determine whether or not they will provide a satisfactory return. Discounted cash flow techniques take account of the time value of money – the fact that $1 received now is worth more because it could be invested to become a greater sum at the end of a year, and even more after the end of two years, and so on.
As with payback, DCF techniques use cash figures before depreciation in the calculations. A typical investment project involves a payment of capital for non-current assets at the start of the project and then there will be returns coming in from the investment over a number of years.

### 7.1 The net present value (NPV) method of DCF

The net present value method calculates the present value of all cash flows, and sums them to give the net present value. If this is positive, then the project is acceptable. The net present value (NPV) method of evaluation is as follows.

(a) **Determine the present value of costs**
   In other words, decide how much capital must be set aside to pay for the project. Let this be $C$.

(b) **Calculate the present value of future cash benefits from the project**
   To do this we take the cash benefit in each year and discount it to a present value. This shows how much we would have to invest now to earn the future benefits, if our rate of return were equal to the cost of capital. By adding up the present value of benefits for each future year, we obtain the total present value of benefits from the project. Let this be $B$.

(c) **Compare the present value of costs $C$ with the present value of benefits $B**
   The NPV is the difference between them: $(B - C)$.

(d) **NPV is positive**
   The present value of benefits exceeds the present value of costs. This in turn means that the project will earn a return in excess of the cost of capital. Therefore, the project should be accepted.

(e) **NPV is negative**
   This means that it would cost us more to invest in the project to obtain the future cash receipts than it would cost us to invest somewhere else, at a rate of interest equal to the cost of capital, to obtain an equal amount of future receipts. The project would earn a return lower than the cost of capital and would not be worth investing in.

### Example: The NPV method

Suppose that a company is wondering whether to invest $18,000 in a project which would make extra profits (before depreciation is deducted) of $10,000 in the first year, $8,000 in the second year and $6,000 in the third year. Its cost of capital is 10% (in other words, it would require a return of at least 10% on its investment). You are required to evaluate the project.

### Solution

In DCF we make several assumptions. One such assumption is that DCFs (payments or receipts) occur on the last day of each year. For example, although profits are $10,000 during the course of year 1, we assume that the $10,000 is not received until the last day of year 1. Similarly, the profits of $8,000 and $6,000 in years 2 and 3 are assumed to occur on the last day of years 2 and 3 respectively. The cash payment of $18,000 occurs ‘now’ at the start of year 1. To be consistent, we say that this payment occurs on the last day of the current year which is often referred to as year 0.

The NPV is now calculated with discounting arithmetic. Note that the Present Value Table in the Appendix gives us the following values.

<table>
<thead>
<tr>
<th>Year</th>
<th>Present value of $1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.909</td>
</tr>
<tr>
<td>2</td>
<td>0.826</td>
</tr>
<tr>
<td>3</td>
<td>0.751</td>
</tr>
</tbody>
</table>
The NPV is positive, which means that the project will earn more than 10%. ($20,204 would have to be invested now at 10% to earn the future cash flows; since the project will earn these returns at a cost of only $18,000 it must earn a return in excess of 10%).

**Advantages and disadvantages of NPV**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholder wealth is <strong>maximised</strong>.</td>
<td>It can be difficult to identify an <strong>appropriate discount rate</strong>.</td>
</tr>
<tr>
<td>It takes into account the <strong>time value of money</strong>.</td>
<td>For simplicity, cash flows are sometimes all assumed to occur at <strong>year ends</strong>: this assumption may be unrealistic.</td>
</tr>
<tr>
<td>It is based on <strong>cash flows</strong> which are less subjective than profit.</td>
<td>Some managers are <strong>unfamiliar</strong> with the concept of NPV.</td>
</tr>
<tr>
<td>Shareholders will <strong>benefit</strong> if a project with a positive NPV is accepted.</td>
<td></td>
</tr>
</tbody>
</table>

**Question 2.5**

LCH Co manufactures product X which it sells for $5 per unit. Variable costs of production are currently $3 per unit, and fixed costs 50c per unit. A new machine is available which would cost $90,000 but which could be used to make product X for a variable cost of only $2.50 per unit. Fixed costs, however, would increase by $7,500 per annum as a direct result of purchasing the machine. The machine would have an expected life of 4 years and a resale value after that time of $10,000. Sales of product X are estimated to be 75,000 units per annum. LCH Co expects to earn at least 12% per annum from its investments. Ignore taxation.

You are required to decide whether LCH Co should purchase the machine.

**7.2 Discounted payback method**

We have seen how discounting cash flows is a way of reflecting the time value of money in investment appraisal. The further into the future a cash flow is expected to be, the more uncertain it is, and the returns or interest paid to the suppliers of capital (ie to investors) in part reflects this uncertainty. The **discounted payback technique** is an adaptation of the payback technique, which we looked at earlier, taking some account of the time value of money. To calculate the discounted payback period, we establish the time at which the NPV of an investment becomes positive.
**Example: Discounted payback period**

We can calculate the discounted payback period for the example above. Having produced an NPV analysis as in the solution above, we calculate the discounted payback period as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Present value</th>
<th>Cumulative PV</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(18,000)</td>
<td>(18,000)</td>
</tr>
<tr>
<td>1</td>
<td>9,090</td>
<td>(8,910)</td>
</tr>
<tr>
<td>2</td>
<td>6,608</td>
<td>(2,302)</td>
</tr>
<tr>
<td>3</td>
<td>4,506</td>
<td>2,204</td>
</tr>
<tr>
<td></td>
<td><strong>2,204</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Solution**

If we assume now that cash flows in year 3 are even, instead of occurring on the last day of the year, the discounted payback period can be estimated as follows.

Discounted payback period = 2 years + 2,302/4,506 years
= 2.51 years, round to 2½ years

This compares with a non-discounted payback period of 2 years for the same project, since the initial outlay of $18,000 is recouped in monetary terms by year 2. The discounted payback period of 2½ years suggests that if the project must be terminated within that period, it will not have added value to the company.

**7.3 The cost of capital**

We have mentioned that the appropriate discount rate to use in investment appraisal is the company's cost of capital. In practice, this is difficult to determine. The discount rate which a company should use as its cost of capital is one that reflects the return expected by its investors in shares and loan notes, the opportunity cost of finance.

Shareholders expect dividends and capital gains; loan note investors expect interest payments. A company must make enough profits from its own operations (including capital expenditure projects) to pay dividends and interest. The average return is the weighted average of the return required by shareholders and loan note investors. The cost of capital is therefore the weighted average cost of all the sources of capital. This is explored in more detail in Chapter 4.

**7.4 Internal rate of return (IRR)**

The internal rate of return technique uses a trial and error method to discover the rate of return which is expected from a project. The internal rate of return (IRR) method of DCF involves two steps.

- Calculating the rate of return which is expected from a project
- Comparing the rate of return with the cost of capital

If a project earns a higher rate of return than the cost of capital, it will be worth undertaking (and its NPV would be positive). If it earns a lower rate of return, it is not worthwhile (and its NPV would be negative).
Calculating the IRR

Suppose that a project would cost $20,000 and the annual net cash inflows are expected to be as follows. What is the IRR of the project?

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(20,000)</td>
</tr>
<tr>
<td>1</td>
<td>8,000</td>
</tr>
<tr>
<td>2</td>
<td>10,000</td>
</tr>
<tr>
<td>3</td>
<td>6,000</td>
</tr>
<tr>
<td>4</td>
<td>4,000</td>
</tr>
</tbody>
</table>

The IRR is the rate of interest at which the discounted (present) values of benefits add up to $20,000. In other words, we need to find out what interest rate would give an NPV of 0 (being the present value of the $20,000 benefits, less the $20,000 cost).

We are after two rates of return.

(a) One at which the NPV is a small positive value. The actual IRR will be higher than this rate of return.

(b) One at which the NPV is a small negative value. The actual IRR will be lower than this rate of return.

The actual IRR will then be found (approximately) by using the two rates in (a) and (b).

In our example, we might begin by trying discount rates of 10%, 15% and 20%.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>Discount factor at 10%</th>
<th>Present value at 10%</th>
<th>Discount factor at 15%</th>
<th>Present value at 15%</th>
<th>Discount factor at 20%</th>
<th>Present value at 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(20,000)</td>
<td>1.000</td>
<td>(20,000)</td>
<td>1.000</td>
<td>(20,000)</td>
<td>1.000</td>
<td>(20,000)</td>
</tr>
<tr>
<td>1</td>
<td>8,000</td>
<td>0.909</td>
<td>7,272</td>
<td>0.870</td>
<td>6,960</td>
<td>0.833</td>
<td>6,664</td>
</tr>
<tr>
<td>2</td>
<td>10,000</td>
<td>0.826</td>
<td>8,260</td>
<td>0.756</td>
<td>7,560</td>
<td>0.694</td>
<td>6,940</td>
</tr>
<tr>
<td>3</td>
<td>6,000</td>
<td>0.751</td>
<td>4,506</td>
<td>0.658</td>
<td>3,948</td>
<td>0.579</td>
<td>3,474</td>
</tr>
<tr>
<td>4</td>
<td>4,000</td>
<td>0.683</td>
<td>2,732</td>
<td>0.572</td>
<td>2,288</td>
<td>0.482</td>
<td>1,928</td>
</tr>
<tr>
<td>NPV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NPV = 2,770

The IRR is more than 15% but less than 20%.

To estimate the IRR, we now assume that the NPV falls steadily and at a constant rate between $756 at 15% and $(994) at 20%. This represents a fall of $(756 + 994) = $1,750 in NPV between 15% and 20%. This is an average fall of:

\[
\frac{1,750}{(20 - 15)\%} = 350 \text{ in NPV for each } 1\% \text{ increase in the discount rate.}
\]

Since the IRR is where the NPV is 0, it must be

\[
\frac{756}{350} \times 1\% \text{ above } 15%,
\]

ie about 2.2% above 15% = 17.2%.

A formula for the IRR

A formula for making this calculation (which is known as interpolation) is as follows.

\[
\text{IRR} = A + \left[ \frac{a}{a - b} \times (B - A) \right]
\]
where \( A \) is the discount rate which provides the positive NPV

\[ a \] is the amount of the positive NPV

\( B \) is the discount rate which provides the negative NPV

\[ b \] is the amount of the negative NPV

In our example, using this formula, the IRR would be calculated as follows.

\[
15\% + \frac{756}{756 - 994} \times (20 - 15) \% = 15\% + (0.432 \times 5)\%
\]

\[
= 15\% + 2.16\%
\]

\[
= 17.16\%, \text{ round to } 17.2\%
\]

**Advantages of the IRR method**

The following are advantages of using IRR.

(a) It takes into account the **time value of money**, unlike other approaches such as payback.

(b) Results are expressed as a **simple percentage**, and are more easily understood than some other methods.

(c) It indicates how **sensitive** calculations are to changes in interest rates.

**Problems with the IRR method**

The following are problems of using IRR.

(a) Projects with unconventional cash flows can produce **negative** or **multiple IRRs**.

(b) IRR may be **confused** with return on capital employed (ROCE), since both give answers in percentage terms.

(c) It may give **conflicting recommendations** with mutually exclusive projects, because the result is given in relative terms (percentages), and not in absolute terms ($s) as with NPV.

(d) It cannot accommodate **changing interest rates**.

(e) It assumes that funds can be **reinvested** at a rate equivalent to the IRR, which may be too high.

**SECTION SUMMARY**

The net present value method calculates the present value of all cash flows, and sums them to give the net present value. If this is positive, then the project is acceptable.

The discounted payback method applies discounting to arrive at a payback period after which the NPV becomes positive.

The internal rate of return technique uses a trial and error method to discover the discount rate which produces the NPV of zero. This discount rate will be the return forecast for the project.
8  Return on capital employed

8.1 ROCE/ARR

**SECTION INTRODUCTION**

The return on capital employed method (ROCE) (also called the accounting rate of return (ARR) method or the return on investment (ROI) method) of appraising a capital project estimates the rate of return that the project should yield. If it exceeds a target rate of return, the project will be undertaken. There are several different definitions of 'return on capital employed', but one of the most popular is as follows.

\[
ROCE = \frac{\text{Estimated average annual accounting profits}}{\text{Estimated average investment}} \times 100\%
\]

Average investment = \( \frac{\text{Opening capital employed} + \text{Closing capital employed}}{2} \)

8.2 The drawbacks to the ROCE method of capital investment appraisal

The ROCE method of capital investment appraisal has the serious drawback that it does not take account of the timing of the profits from an investment. Whenever capital is invested in a project, money is tied up until the project begins to earn profits which pay back the investment. Money tied up in one project cannot be invested anywhere else until the profits come in. Management should be aware of the benefits of early repayments from an investment, which will provide the money for other investments.

There are a number of other disadvantages.

(a) It is based on accounting profits and not cash flows. Accounting profits are subject to a number of different accounting treatments.

(b) It is a relative measure rather than an absolute measure and therefore takes no account of the size of the investment.

(c) It takes no account of the length of the project.

(d) Like the payback method, it ignores the time value of money.

There are, however, advantages to the ROCE method.

(a) It is a quick and simple calculation.

(b) It involves the familiar concept of a percentage return. The fact that it gives a relative measure means that ROCE makes it easy to compare two investment options.

(c) It looks at the entire project life.
Question 2.6

A company has a target return on capital employed of 20% for its capital investments, and is now considering the following project.

<table>
<thead>
<tr>
<th>Capital cost of asset</th>
<th>$80,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated life</td>
<td>4 years</td>
</tr>
<tr>
<td>Estimated profit before depreciation</td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>$20,000</td>
</tr>
<tr>
<td>Year 2</td>
<td>$25,000</td>
</tr>
<tr>
<td>Year 3</td>
<td>$35,000</td>
</tr>
<tr>
<td>Year 4</td>
<td>$25,000</td>
</tr>
</tbody>
</table>

The capital asset would be depreciated on a straight line basis at 25% of its cost each year, and will have no residual value. You are required to assess whether the project should be undertaken, using estimated mid-year net book values.

SECTION SUMMARY

The ROCE method of capital investment appraisal has the serious drawback that it does not take account of the timing of the profits from an investment, but it is a quick and simple calculation and facilitates the comparison of different options.

\[
\text{ROCE} = \frac{\text{Estimated average annual accounting profits}}{\text{Estimated average investment}} \times 100\%
\]
Chapter Roundup

Capital budgeting and forecasting

Working capital management – current assets minus current liabilities

Techniques for capital investment decisions

Forecasting
- % of sales
- Regression analysis
- Operating cycle
- Cash forecasting

Financing
- Conservative
- Aggressive
- Overcapitalisation
- Overtrading

Liquidity & cash management
- Cashflow forecasting

Ratio analysis
- Gearing
- Interest cover
- Current ratio
- Quick ratio
- Receivables days
- Inventory days
- Payables days

Payback
- NPV
- Discounted payback
- IRR
- ROCE/ARR

Techniques for capital investment decisions
Quick Quiz

1. What are the two most likely reasons for a lengthening inventory turnover period?

2. What is the working capital requirement of a company with the following average figures over a year?

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>3,750</td>
</tr>
<tr>
<td>Trade accounts receivable</td>
<td>1,500</td>
</tr>
<tr>
<td>Cash and bank balances</td>
<td>500</td>
</tr>
<tr>
<td>Trade accounts payable</td>
<td>1,800</td>
</tr>
</tbody>
</table>

3. Which type of policy is characterised by all non-current assets and permanent current assets being financed by long-term funding?

4. Which of the following should be included in a cash flow forecast?

<table>
<thead>
<tr>
<th>Include</th>
<th>Do not include</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds from the issue of share capital</td>
<td></td>
</tr>
<tr>
<td>Revaluation of a non-current asset</td>
<td></td>
</tr>
<tr>
<td>Receipts of dividends from outside the business</td>
<td></td>
</tr>
<tr>
<td>Depreciation of production machinery</td>
<td></td>
</tr>
<tr>
<td>Bad debts written off</td>
<td></td>
</tr>
<tr>
<td>Repayment of a bank loan</td>
<td></td>
</tr>
</tbody>
</table>

5. What should the 'acid test' or quick ratio include?

6. In a period when profits are fluctuating, what effect does a company's level of gearing have on the profits available for ordinary shareholders?

7. Deal Co has the following capital structure:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$1 ordinary shares</td>
<td>55,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>12,000</td>
</tr>
<tr>
<td></td>
<td>67,000</td>
</tr>
<tr>
<td>6% $1 cumulative redeemable preference shares</td>
<td>15,000</td>
</tr>
<tr>
<td>8% loan notes</td>
<td>30,000</td>
</tr>
<tr>
<td></td>
<td>112,000</td>
</tr>
</tbody>
</table>

What is the company's level of gearing?

8. What is the discounted payback period?

9. What are the two steps involved in assessing whether the internal rate of return of a project is sufficient?

10. What is the yardstick for acceptance of projects when using the net present value method?
Answers to Quick Quiz

1. (a) A slowdown in trading
   (b) A build-up of inventory levels

2. Working capital requirement = current assets less current liabilities
   = 3,750 + 1,500 – 1,800
   = $3,450

3. Conservative

4. | Include | Do not include |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds from the issue of share capital</td>
<td>✓</td>
</tr>
<tr>
<td>Revaluation of a non-current asset</td>
<td>✓</td>
</tr>
<tr>
<td>Receipts of dividends from outside the business</td>
<td>✓</td>
</tr>
<tr>
<td>Depreciation of production machinery</td>
<td>✓</td>
</tr>
<tr>
<td>Bad debts written off</td>
<td>✓</td>
</tr>
<tr>
<td>Repayment of a bank loan</td>
<td>✓</td>
</tr>
</tbody>
</table>

5. Acid test ratio = \( \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}} \)

6. Profits available for the shareholders will be highly volatile and some years there may not be an ordinary dividend paid.

7. Debt = 15 + 30 = 45
   Equity = 55 + 12 = 67
   \[ \therefore \frac{45}{67} \times 100 = 67.2\% \]

8. The time after which the net present value of an investment becomes positive.

9. Step 1 – Calculate the rate of return expected.
   Step 2 – Compare the rate of return with the cost of capital.

10. Accept the project if the net present value of the future cash flows is positive.
Answers to Questions

2.1

We can ignore the time that finished goods are in inventory, as it is no more than a couple of days.

<table>
<thead>
<tr>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
</tr>
</tbody>
</table>

The average time that raw materials remain in inventory

Less the time taken to pay suppliers

The time taken to produce the goods

The time taken by customers to pay for the goods

Cash cycle

The company's cash operating cycle is two months. This can be illustrated diagrammatically as follows.

```
0 -- Goods purchased -- 2.5 -- Goods sold to customers -- 3 -- Suppliers paid -- 4.5 -- Cash received from customers -- Cash operating cycle two months
```

2.2

(2)

<table>
<thead>
<tr>
<th>(a)</th>
<th>January $</th>
<th>February $</th>
<th>March $</th>
<th>April $</th>
<th>May $</th>
<th>June $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash receipts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash sales</td>
<td>44,000</td>
<td>52,000</td>
<td>56,000</td>
<td>60,000</td>
<td>64,000</td>
<td>72,000</td>
</tr>
<tr>
<td>Credit sales</td>
<td>48,000</td>
<td>60,000</td>
<td>66,000</td>
<td>78,000</td>
<td>84,000</td>
<td>90,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>92,000</strong></td>
<td><strong>112,000</strong></td>
<td><strong>122,000</strong></td>
<td><strong>138,000</strong></td>
<td><strong>148,000</strong></td>
<td><strong>162,000</strong></td>
</tr>
<tr>
<td><strong>Cash payments</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchases</td>
<td>60,000</td>
<td>80,000</td>
<td>90,000</td>
<td>110,000</td>
<td>130,000</td>
<td>140,000</td>
</tr>
<tr>
<td>Wages: 75%</td>
<td>12,000</td>
<td>15,000</td>
<td>18,000</td>
<td>21,000</td>
<td>24,000</td>
<td>27,000</td>
</tr>
<tr>
<td>Wages: 25%</td>
<td>3,000</td>
<td>4,000</td>
<td>5,000</td>
<td>6,000</td>
<td>7,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Overheads</td>
<td>10,000</td>
<td>15,000</td>
<td>15,000</td>
<td>15,000</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Dividends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>Capital expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30,000</td>
<td>40,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>85,000</strong></td>
<td><strong>114,000</strong></td>
<td><strong>178,000</strong></td>
<td><strong>152,000</strong></td>
<td><strong>181,000</strong></td>
<td><strong>235,000</strong></td>
</tr>
<tr>
<td><strong>b/f</strong></td>
<td>15,000</td>
<td>22,000</td>
<td>20,000</td>
<td>(36,000)</td>
<td>(50,000)</td>
<td>(83,000)</td>
</tr>
<tr>
<td><strong>Net cash flow</strong></td>
<td>7,000</td>
<td>(2,000)</td>
<td>(56,000)</td>
<td>(14,000)</td>
<td>(33,000)</td>
<td>(73,000)</td>
</tr>
<tr>
<td><strong>c/f</strong></td>
<td>22,000</td>
<td>20,000</td>
<td>(36,000)</td>
<td>(50,000)</td>
<td>(83,000)</td>
<td>(156,000)</td>
</tr>
</tbody>
</table>
(b) The overdraft arrangements are quite inadequate to service the cash needs of the business over the six-month period. If the figures are realistic then action should be taken now to avoid difficulties in the near future. The following are possible courses of action.

(i) **Activities** could be curtailed.

(ii) **Other sources of cash** could be explored, for example a long-term loan to finance the capital expenditure and a factoring arrangement to provide cash due from accounts receivable more quickly.

(iii) Efforts to increase the **speed of debt collection** could be made.

(iv) **Payments to accounts payable** could be delayed.

(v) The **capital expenditure** totalling $70k could be postponed.

(vi) The **dividend payments** could be postponed (the figures indicate that this is a small company, possibly owner managed).

(vii) Staff might be persuaded to work at a **lower rate** in return for an annual bonus or a profit-sharing agreement, for example.

(viii) **Extra staff** might be taken on to reduce the amount of overtime paid.

(ix) The **inventory holding policy** should be reviewed; it may be possible to meet demand from current production and minimise cash tied up in inventories.

### 2.3 Liquidity and working capital

<table>
<thead>
<tr>
<th></th>
<th>20X7</th>
<th>20X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current ratio</td>
<td>626.8</td>
<td>654.4</td>
</tr>
<tr>
<td></td>
<td>599.1</td>
<td>642.2</td>
</tr>
<tr>
<td></td>
<td>= 1.05</td>
<td>= 1.02</td>
</tr>
<tr>
<td>Quick ratio</td>
<td>584.1</td>
<td>576.4</td>
</tr>
<tr>
<td></td>
<td>599.1</td>
<td>642.2</td>
</tr>
<tr>
<td></td>
<td>= 0.97</td>
<td>= 0.90</td>
</tr>
<tr>
<td>Receivables days</td>
<td>295.2</td>
<td>335.5</td>
</tr>
<tr>
<td></td>
<td>2,176.2</td>
<td>2,344.8</td>
</tr>
<tr>
<td></td>
<td>× 365 = 49.5 days</td>
<td>× 365 = 52.2 days</td>
</tr>
<tr>
<td>Inventory days</td>
<td>42.7</td>
<td>78.0</td>
</tr>
<tr>
<td></td>
<td>1,659.0</td>
<td>1,731.5</td>
</tr>
<tr>
<td></td>
<td>× 365 = 9.4 days</td>
<td>× 365 = 16.4 days</td>
</tr>
<tr>
<td>Payables days</td>
<td>190.8</td>
<td>188.1</td>
</tr>
<tr>
<td></td>
<td>1,659.0</td>
<td>1,731.5</td>
</tr>
<tr>
<td></td>
<td>× 365 = 42.0 days</td>
<td>× 365 = 39.7 days</td>
</tr>
</tbody>
</table>

Both the current and quick ratios have improved year on year. This is because TEB is collecting its debts more quickly from its customers (evidenced by a decrease in receivables days from 52.2 days to 49.5 days) and selling its inventory more quickly (evidenced by a decrease in inventory days from 16.4 days to 9.4 days). Paying its suppliers more slowly (taking an average of 42 days as opposed to 40 days in the prior year) has also improved short-term liquidity. However, payables are being paid more quickly than money is collected from customers which is not a good strategy from a cash flow perspective.

The reason for inventory days being so low is because TEB is a services company and therefore holds very low levels of inventory.

### 2.4

(a) **Solution**

\[ P = \frac{13,310}{(1.10)^3} = 10,000 \]

**Proof** After one year the investment would be worth $10,000 × 1.10 = $11,000; after two years it would be $11,000 × 1.10 = $12,100; and after three years it would be $12,100 × 1.10 = $13,310.
(b)

The investment must provide $10,000 after two years for the elder son and $10,000 after three years for the younger son.

<table>
<thead>
<tr>
<th>After $n$ years</th>
<th>Discount factor</th>
<th>Amount provided</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$n = 2$</td>
<td>0.857</td>
<td>$10,000</td>
<td>$8,570</td>
</tr>
<tr>
<td>$n = 3$</td>
<td>0.794</td>
<td>$10,000</td>
<td>$7,940</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$16,510</td>
</tr>
</tbody>
</table>

Proof

After 2 years the investment of $16,510 will be worth $16,510 \times 1.166 = $19,251. After paying $10,000 to the elder son, $9,251 will be left after 2 years. This will earn interest of 8% in year 3, to be worth $9,251 \times 1.08 = $9,991 at the end of the year. This is almost enough to pay $10,000 to the younger son. The difference ($9) is caused by rounding errors in the table of discount (present value) factors and compound (future value) factors.

2.5

Savings are $75,000 \times ($3 - $2.50) = $37,500 per annum.

Additional costs are $7,500 per annum.

Net cash savings are therefore $30,000 per annum. (Remember, depreciation is not a cash flow and must be ignored as a cost.)

The first step in calculating an NPV is to establish the relevant costs year by year. All future cash flows arising as a direct consequence of the decision should be taken into account. It is assumed that the machine will be sold for $10,000 at the end of year 4.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>PV factor 12%</th>
<th>PV of cash flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(90,000)</td>
<td>1.000</td>
<td>(90,000)</td>
</tr>
<tr>
<td>1</td>
<td>30,000</td>
<td>0.893</td>
<td>26,790</td>
</tr>
<tr>
<td>2</td>
<td>30,000</td>
<td>0.797</td>
<td>23,910</td>
</tr>
<tr>
<td>3</td>
<td>30,000</td>
<td>0.712</td>
<td>21,360</td>
</tr>
<tr>
<td>4</td>
<td>40,000</td>
<td>0.636</td>
<td>25,440</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7,500</td>
</tr>
</tbody>
</table>

The NPV is positive and so the project is expected to earn more than 12% per annum and is therefore acceptable.

2.6

The annual profits after depreciation, and the mid-year net book value of the asset, would be as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Profit after depreciation</th>
<th>Mid-year net book value</th>
<th>ROCE in the year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>70,000</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>5,000</td>
<td>50,000</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>15,000</td>
<td>30,000</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>5,000</td>
<td>10,000</td>
<td>50</td>
</tr>
</tbody>
</table>

As the table shows, the ROCE is low in the early stages of the project, partly because of low profits in Year 1 but mainly because the net book value of the asset is much higher early on in its life.

The project does not achieve the target ROCE of 20% in its first two years, but exceeds it in years 3 and 4. So should it be undertaken?

When the ROCE from a project varies from year to year, it makes sense to take an overall or ‘average’ view of the project’s return. In this case, we should look at the return as a whole over the four-year period.
Total profit before depreciation over four years $105,000
Total profit after depreciation over four years $25,000
Average annual profit after depreciation $6,250
Original cost of investment $80,000
Average net book value over the four-year period \( \frac{80,000 + 0}{2} \) $40,000

\[
\text{ROCE} = \frac{6,250}{40,000} = 15.6\%
\]

The project would not be undertaken because it would fail to yield the target return of 20%.
There are occasions when management or investors need to make a valuation of a business. To do this, they may use a number of different valuation techniques or methods. Each method will produce a different valuation. The challenge for the manager or investor is then to decide, from the range of estimated valuations that have been prepared, what an appropriate 'actual' valuation should be.

This chapter describes the reasons why a business valuation may be required, and the various techniques or methods that can be used to obtain an estimated valuation. It then goes on to discuss briefly how the various estimates may be used.
Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Valuation Techniques</td>
<td>2</td>
</tr>
<tr>
<td>Describe the environment in which an organisation operates, including the main</td>
<td></td>
</tr>
<tr>
<td>economic, legal, political, social, technical, international and cultural forces</td>
<td></td>
</tr>
<tr>
<td>Explain, apply, and justify the use of income, asset-based, and market valuation</td>
<td>3</td>
</tr>
<tr>
<td>approaches used for investment decisions, business planning, and long-term</td>
<td></td>
</tr>
<tr>
<td>financial management.</td>
<td></td>
</tr>
</tbody>
</table>

ESSENTIAL READING

FRS 33: Earnings per Share
FRS 38: Intangible assets
Copies of Singapore legislation can be found at http://statutes.agc.gov.sg
Patents Act Chapter 20
Trade Marks Act Chapter 332
Copyright Act Chapter 63

1 Introduction to business valuations

SECTION INTRODUCTION

There are different reasons why management or investors may need to estimate the value of a business. When making a business valuation, some of the quantifiable factors to consider are asset values, earnings and cash flow.

1.1 Reasons for business valuations

Senior management or an investor may wish to estimate a value for a business in a number of different circumstances.

(a) For quoted companies (companies listed on a stock market), when there is a takeover bid. The shares of quoted companies, which are traded on a stock market, have a market price which will vary to some extent in response to supply and demand from investors in the stock market. So if a quoted company has 200 million shares in issue and the current share price is $2.50 per share, the value of the company's equity shares is $500 million.

On some occasions, however, the current share price is not a satisfactory basis for a valuation. In particular, if a larger quoted company is thinking about a takeover bid for a smaller quoted company, it will have to make a bid at a price above the current market price, at a 'fair price' that allows for the fact that the bidding company, if successful, would acquire control of the target company.

Similarly the directors and shareholders of a quoted company, if it is the target for a takeover bid, will expect the offer price to be above the current market price. The buyer will be expected to pay a 'control premium' to gain control of the target company.
The challenge for the bidding company and the directors and shareholders of the target company is to reach a price at which the buyer and sellers can agree, so that the takeover bid succeeds.

(b) **For unquoted (private) companies.** A valuation for private companies may be needed in any of the following situations.

- The company wishes to list its shares and become a quoted company through an Initial Public Offering (IPO) of its shares in the stock market. The company (or its advisers) must decide on an issue price for the shares.
- When a private company is the target of a takeover bid, the bidder will make a valuation in order to decide an offer price. The directors and shareholders of the target company will also make their own (separate) valuation, to decide what they think the shares are worth, and whether or not to accept an offer from the bidder.
- A shareholder in a private company may wish to sell shares privately to another investor.
- The owner-manager of a private company may wish to sell the business, for example because the owner wishes to retire.
- Shares may need a valuation for the purpose of taxation (for example for inheritance tax or when shares are donated to an Institution of Public Character).

(c) When a parent company decides to sell off a subsidiary company or operating division, or when a company wishes to sell its share in a joint venture operation to its joint venture partner.

(d) A company may wish to buy the business of a partnership or a business entrepreneur.

The examples and explanations in this chapter focus on the valuation of companies. However, the same or similar techniques can be used to value partnerships and sole proprietor businesses.

### 1.2 The difficulties in making a business valuation

Calculating valuations of businesses can be very difficult, and valuations rely heavily on assumptions and judgements. Three major reasons for difficulties with valuations are:

(a) Where valuations are based on comparisons with similar businesses (and the known market values of those businesses), it can be difficult to identify suitable comparable businesses: businesses differ in scope of activities, size, stage of business development, financing structure, accounting policies and business strategy.

(b) It is often very difficult to obtain reliable data for making a valuation. For example, estimates of future cash flows for a business may be based on questionable assumptions about revenue growth, costs and other factors.

(c) There are many different variables that can affect value. Value can depend on external factors in the business environment, and the strength of competition within the industry.

When making a business valuation, it is important to recognise the uncertainties in the valuation and to state the assumptions that have been made. Assumptions should be reasonable; even so, **business valuations are a matter of judgement**, and opinions of different experts may vary.

An interesting example of the purchase of a private company was the acquisition of Kay Lee Roast Meat Joint in October 2014. The purchaser was the conglomerate Aztech Group, whose business interests include electronics and LED lights as well as selling wines and food distribution. This was its first foray into the restaurant business. The owners had originally put the company up for sale two-and-a-half-years previously, but none of the potential buyers had been willing to offer the asking price. The eventual price paid by Aztech was $4 million; this was $500,000 higher than the original asking price because of an increase in the value of the company’s freehold property during the time that the business was up for sale.
1.3 Non-financial factors that affect a valuation

The value of a business may be affected by various non-financial factors.

(a) **Key employees** in the target company. In a takeover, the bidding company may decide that the takeover cannot be justified, or cannot be justified at a high price, unless certain key employees agree to remain with the company after the takeover.

(b) The size of the shareholding. A bidding company in a takeover may be willing to pay a higher price in order to obtain control (more than 50% of the shares in the target company) than it would pay for a smaller interest.

(c) For shareholders in a private company, the value of their shares will be affected by the fact that it is difficult to sell their shares, because they do not have access to a stock market. A private company would be worth less than a comparable quoted company of similar size and profitability.

Valuations are affected by the future financial prospects of the business, but in turn financial success depends on non-financial developments such as changes in the business environment or in the industry in which a company operates. The ability of a company to succeed also depends on the resources that it has as its disposal and its competences and competitive advantage over rivals. Factors in the business and competitive environment, and in the resources of the business, are considered in more detail in a later section.

1.4 Approaches to valuation

There are four broad approaches to calculating value for the purpose of deciding a purchase price or a selling price for a business, or possibly for other reasons such as inheritance or tax purposes. (Another reason for valuation in a takeover of another company is to allocate the purchase price between tangible assets, intangible assets and goodwill. This is explained in Chapter 7.)

(a) **Net assets approach.** One approach is to value a business by making a valuation of its assets. To estimate a value for the shares, the total value of the company's liabilities should be deducted from the total value of the assets. When using an assets-based approach, it is important to consider the basis of valuation that has been used for any available data: historical cost or fair value?

(b) **Income approach.** Another approach is to value a business on the basis of the income that it is expected to provide in the future. This is based on the view that the value of a business depends largely on the cash that the business assets will produce in the future for its owners. An income-based valuation involves discounting the estimated future income to a present value, using the discounted cash flow (DCF) method.

(c) **Market approach.** A market-based approach to business valuation, as its name implies, uses evidence or information in the market place to decide what the value of a business should be. The current market value of similar businesses can be used as a guide. A market-based valuation may be used for quoted companies, although it may be less reliable than a cash flow-based valuation. However future cash flow estimates are probably unreliable for small private companies. For these companies, an income-based valuation may therefore be more appropriate.

Each of these three methods of valuation is likely to produce a different value.

These are the three main approaches to business valuation, but a number of other valuation techniques or methods may also be used. These are described in the following sections. In practice, several different methods of valuation should be used, and the resulting values should be compared for similarity and dissimilarity. Where valuations differ significantly, it may be useful to recognise the main reason or reasons for the difference. Using different methods should help the valuer to reach a view about an appropriate valuation.
It is also necessary to remember that businesses may be valued as ‘equity plus debt’ or as ‘equity only’. When making a business valuation, it is therefore important to understand whether you are making a valuation of the entire business, including its long-term debt, or whether you are making a valuation of the equity shares only.

SECTION SUMMARY

There are different situations in which a business valuation is required. A common situation is when a company is considering a takeover bid for a target business, and valuations are estimated by the bidding company and the managers and owners of the target business. There are several methods of making a business valuation, including an adjusted net assets approach, an income approach and a market approach.

2 Asset based methods of valuation

SECTION INTRODUCTION

One approach to business valuation is to obtain a valuation for the company's assets. To obtain a valuation for the equity and long-term debt capital, current liabilities are deducted from the total. To obtain a valuation for the equity, total liabilities are deducted from the total value of assets.

An asset-based valuation will often produce a low valuation for a business.

Assets should be valued at a ‘fair value’, which may not be the value in the statement of financial position. It may also be necessary to consider a value for intangible assets, such as intellectual property or ‘know-how’ and experience, which are not included in the statement of financial position. It may therefore be appropriate to adjust or ‘revise’ the value of the assets of a business so that they are given a fair value and all assets, tangible and intangible, are included.

2.1 The basic net assets valuation method

Using this method of valuation, the value of the equity of a business is the fair value of its net assets (total assets minus liabilities other than long-term debt).

In this basic method, intangible assets (including goodwill) are excluded, unless they have a market value. For example, patents and copyrights, if they can be sold, should be included in the valuation.
Example: basic approach to net assets valuation

The summary statement of financial position of Cactus Company is as follows.

<table>
<thead>
<tr>
<th></th>
<th>$</th>
<th>$</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-current assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land and buildings</td>
<td>160,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant and machinery</td>
<td>80,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor vehicles</td>
<td>20,000</td>
<td></td>
<td>260,000</td>
</tr>
<tr>
<td>Goodwill</td>
<td></td>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory</td>
<td>80,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receivables</td>
<td>60,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term investments</td>
<td>15,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>5,000</td>
<td></td>
<td>160,000</td>
</tr>
<tr>
<td><strong>Current liabilities</strong></td>
<td></td>
<td>80,000</td>
<td>(100,000)</td>
</tr>
<tr>
<td>Payables</td>
<td>80,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxation</td>
<td>20,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total net assets</strong></td>
<td>340,000</td>
<td>(60,000)</td>
<td>270,000</td>
</tr>
<tr>
<td>Ordinary share capital</td>
<td>80,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserves</td>
<td>140,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.9% preference shares of $1</strong></td>
<td></td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total equity and reserves</strong></td>
<td>220,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What is the value of the equity of Cactus Company using the basic net assets basis of valuation?

Solution

If the asset values in the statement of financial position were not challenged, the valuation would be as follows.

<table>
<thead>
<tr>
<th></th>
<th>$</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total value of assets less current liabilities</strong></td>
<td>340,000</td>
<td></td>
</tr>
<tr>
<td>Less intangible asset (goodwill)</td>
<td>(20,000)</td>
<td></td>
</tr>
<tr>
<td><strong>Total value of assets less current liabilities</strong></td>
<td>320,000</td>
<td></td>
</tr>
<tr>
<td>Less: Preference shares</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>Bonds</td>
<td>60,000</td>
<td></td>
</tr>
<tr>
<td>Deferred taxation</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td><strong>Net asset value of equity</strong></td>
<td>120,000</td>
<td></td>
</tr>
</tbody>
</table>

2.2 Choice of valuation bases for assets

A difficulty with the asset valuation method is deciding how to make a valuation. Values ought to be realistic and fair. The value attributed to an individual asset may vary considerably depending on the method of valuation used, for example whether it is valued on a **going concern** basis or a **break-up** basis.
Possible methods of valuation include:

- **Historical cost** – This method is unlikely to give a realistic value for non-current assets, particularly land and buildings that have been in company ownership for a number of years.

- **Replacement cost** – This is the cost of replacing the asset. This method of valuation may be appropriate when the assets are used continually within the business.

- **Net replacement cost** – For a non-current asset such as plant and machinery, net replacement cost is the full replacement cost minus an amount for depreciation in recognition of the age of the asset.

- **Net realisable value** – This is the amount that would be obtained from selling the asset in its current condition (net of any selling costs). For some assets, such as property (real estate) this current market value might be a suitable method of valuation.

So which method of valuation should be used? The answer is that it depends on the type of asset and the reason why a valuation is required. As a very general guide, when the valuation is on a going concern basis:

(a) Current realisable value would be appropriate for assets with a ready market, such as many types of property (land and buildings), motor vehicles and some types of finished goods or commodities held as inventory.

(b) Historical cost may be appropriate for current assets with a fast turnover, such as some items of inventory and trade receivables. However, trade receivables should be valued after deducting an allowance for irrecoverable debts.

(c) It may be difficult to value some items of non-current assets, and carrying amount in the financial statements (net book value) or net replacement cost may be considered appropriate.

If you are asked to provide an assets-based valuation for a business in your examination, state clearly any assumptions about the valuation method that you use.

### 2.3 Intangible assets

The asset based valuation method discussed so far has excluded intangible assets from the computation. This is an unsatisfactory method of valuation for a business that has substantial intangible assets. A business in a service industry, for example, may have only a small quantity of tangible assets, but large amounts of intangible assets. The valuation of intangible assets and intellectual capital is particularly difficult.

A distinction can be made between intangible assets and goodwill.

(a) Intangible assets are **identifiable** non-monetary assets without physical substance which must be controlled by the entity as the result of past events and from which the entity expects a flow of future economic benefits. (*FRS 38*)

(b) Goodwill is future economic benefits arising from assets that are **not capable of being individually identified** and separately recognised.

The financial reporting accounting distinctions are not so important; however, we are interested in any intangible assets of the business that may have some value. (Internally-generated goodwill is not included in financial statements, but may be relevant to a business valuation.)

The term ‘intellectual capital’ is used to describe several types of intangible asset. It includes intellectual property such as patents and copyrights, the collective skills and experience of the work force and knowledge ‘owned’ by the business that other businesses do not have. Examples of intangible assets/intellectual property include:

- Patents (Patents Act Chapter 20), trademarks (Trade Marks Act Chapter 332), and copyrights (Copyright Act Chapter 63)

- Franchises and licensing agreements

- Research and development

- Brands

- Technology, management and consulting processes

- Know-how, education, vocational qualification
2.4 Methods of valuation for intangible assets

It is extremely difficult to make a ‘fair’ valuation of intangible assets. Some techniques may possibly be applied to the valuation of particular types of asset.

(a) The **premium profits method** is often used for brands. It bases the valuation on capitalisation of the extra profits generated by the brand or other intangible asset in excess of profits made by businesses lacking the intangible asset or brand.

The premium profits specifically attributable to the brand or other intangible asset may be estimated (for example) by comparing the price of branded products and unbranded products. The estimated premium profits can then be capitalised by discounting at a risk-adjusted market rate.

(b) With the **capitalised earnings method**, the maintainable earnings accruing to the intangible asset are estimated. An earnings multiple is then applied to the earnings, taking account of expected risks and rewards, including the prospects for future earnings growth and the risks involved. This method of valuation is often used to value publishing titles.

(c) The **capitalisation with market transactions method** looks at actual market transactions in similar intangible assets. A multiple of revenue or earnings from the intangible asset might then be derived from a similar market transaction.

A problem with this method is that many intangible assets are unique and it may therefore be difficult to identify ‘similar’ market transactions, although this might be done by examining acquisitions and disposals of businesses that include similar intangible assets.

(d) The **relief from royalties method** involves trying to determine:

(i) The value obtainable from licensing out the right to exploit the intangible asset to a third party, or

(ii) The royalties that the owner of the intangible asset is relieved from paying through being the owner rather than the licensee

A notional royalty rate is estimated as a percentage of the revenue or earnings expected to be generated by the intangible asset. The estimated royalty stream can then be capitalised, for example, by discounting at an appropriate discount rate, to find an estimated market value.

2.5 Using the adjusted net assets method of valuation

An adjusted net assets (ANA) approach requires a valuer to analyse each line item on the balance sheet and adjust the book values to fair values.
PART B INVESTMENT APPRAISAL | 3: Business valuation techniques

The ANA approach to valuation may be applicable for businesses where value is derived from the balance sheet rather than from business operations.

SECTION SUMMARY
The adjusted net assets (ANA) method of valuation for a business estimates a ‘fair value’ for the assets less liabilities of the business, making suitable adjustments to asset values in the statement of financial position – adjusting values for some tangible assets and including values for some intangible assets.

3 Income (cash flow-based) valuation methods

SECTION INTRODUCTION
Income valuation methods, or cash flow valuation methods, are based on the view that the value of an investment, such as a business, depends on the amount of cash returns that it will provide to the owner or investor. Cash flow valuations take the same approach to the way that individual investment projects are evaluated using Discounted Cash Flow. Expected future cash returns are converted into a present value at the investor’s cost of capital. Dividend valuation methods are discussed in Chapter 4.

3.1 The reasons for using a cash flow basis for business valuation
Cash flow models of valuation value a business on the basis of the future expected cash flows it will provide. There are several strong arguments in favour of a cash flow approach to valuation.

(a) Cash flows earned by a business are much more relevant to value and shareholder wealth than accounting profits. Valuations should be based on expectations of future cash flows rather than expectations of profit or accounting return on investment.

Cash flow valuation methods depend heavily on reasonable estimates of future cash flows. Unless the cash flows of the business are fairly stable, or unless they are growing at a steady rate that may be assumed to continue into the future, it is difficult to establish what a suitable figure for annual cash flows might be.

(b) Returns on an investment, such as the acquisition of another company, must be sufficient to cover the costs of the finance used to make the acquisition. It is therefore appropriate to value an acquisition in terms of its cost of financing.

The management writer Peter Drucker once commented in a Harvard Business Review article: 'Until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it had a genuine profit. The enterprise still returns less to the economy than it devours in resources… Until then it does not create wealth; it destroys it.' (Drucker, Peter F., ‘The Information Executives Truly Need’: Harvard Business Review, Volume 73, Number 1, pp 54–62)

3.2 The discounted future cash flow (DCF) method of share valuation
We first looked at Discounted Cash Flow in the previous chapter in the context of evaluating capital investment decisions. The Discounted Cash Flow (DCF) method in the context of business valuation follows the same principles, and is based on the view that the value of a business depends on the amount of cash returns that it will provide in the future. Future cash flows can be converted into a present value by discounting them at an appropriate cost of capital. (Discount tables and annuity tables are included)
in an appendix. These discount factors assume that cash flows occur at the end of the relevant years/time periods.)

A DCF valuation is based on assumptions about time scale and cost of capital.

(a) A valuation may be based on estimates of cash flows for a specific number of years in the future. For example, a purchaser of a target business may take the view that an offer price should be based on estimated cash flows of the business for the next five years or ten years.

Alternatively, a valuation may be based on estimates of annual cash flows of the business for the entire future – ‘in perpetuity’.

Future cash flows are commonly divided into:

- A short term discrete period of several years, and
- A longer-term period following the discrete period, when stable cash flows, or stable growth in cash flows, is expected forever or ‘in perpetuity’.

Cash flows are estimated for each of these periods and discounted to obtain:

- A primary value for the discrete period, and
- A terminal value for the longer-term period.

The terminal value (continuing value or horizon value) is the present value at a future point in time of all future cash flows when we expect stable growth rate forever.

The total value of the business is then calculated as:

\[ \text{PV of cash flows in initial investment period} + \text{PV of terminal value at end of initial investment period} \]

Cash flow estimates are more precise and detailed for the initial investment period, whereas simplifying assumptions are usually made to calculate the terminal value.

(b) The choice of cost of capital for discounting is another key issue. A small difference in the cost of capital can have an important effect on the valuation that is obtained. In this chapter, the problem of selecting a suitable cost of capital is not discussed. Cost of capital is discussed in the following chapters.

A DCF valuation should be applied only to future relevant cash flows that will arise as a direct consequence of the investment. Costs that have already been incurred in the past should be excluded from the valuation.

3.3 The arithmetic of discounting

It is assumed that you now are familiar with Discounted Cash Flow techniques and with how to calculate the present value of future cash flows and the Net Present Value of a proposed investment.

For the purpose of the examination, you need to be able to calculate discount factors and annuity factors using a calculator. This section explains how to calculate discount factors with calculators that do not have financial arithmetic functions.

3.3.1 Discount factors

As we saw in Chapter 2, a discount factor is the multiplication factor to be applied to a future cash flow to convert the future amount of the cash flow to a present value.

\[ DF = \frac{1}{(1 + r)^n} \]

Where

- \( DF \) = the discount factor
- \( r \) = the cost of capital, as a proportion: for example, 8% = 0.08 and 15.3% = 0.153
- \( n \) = the time period to which the cash flow relates. ‘Now’ is time period 0.
A table of discount factors (to three decimal places) is provided in a table at the end of this text. These assume that the cash flow will occur at the end of the year.

**Example**

(a) What is the discount factor for a cash flow at the end of Year 7 when the cost of capital is 8%?

(b) What is the present value of a cash flow of $75,000 at the end of Year 6 when the cost of capital is 12%?

(c) What is the discount factor for a cash flow at the end of Year 5 when the cost of capital is 6.9%?

(d) What is the present value of a cash flow of $75,000 at the end of Year 8 when the cost of capital is 14.3%?

Use calculators, not discount tables.

**Solution**

(a) \( DF = \frac{1}{(1.08)^7} = 0.5834904 \).

It makes sense to calculate discount factors to a limited number of decimal places, if it saves time in the examination.

(b) \( DF = \frac{1}{(1.12)^6} = 0.5066311 \)

Present value (PV) = $75,000 \times 0.5066311 = $37,997

Your calculation will differ slightly if you used a discount factor to fewer decimal places.

(c) \( DF = \frac{1}{(1.069)^5} = 0.7163273 \)

(d) \( DF = \frac{1}{(1.143)^8} = 0.3432655 \)

\( PV = 75,000 \times 0.3432655 = 25,745 \)

3.3.2 Factor for the present value of an annuity

An annuity is a constant cash flow per period for a given number of consecutive periods. The present value factor for an annuity is the sum of the discount factors for all the periods covered by the annuity. For example the present value of an annuity for years 1 to 6 at an annual discount rate of 9% is the sum of the discount factors at 9% for Years 1, 2, 3, 4, 5 and 6.

The formula for calculating the present value factor for an annuity is:

\[
AF = \frac{1 - (1 + r)^{-n}}{r}
\]

This may be shown instead as:

\[
AF = \frac{1 - 1/(1 + r)^n}{r}
\]

For example, the present value factor for a series of fixed cash flow amounts at the end of each year, Years 1 – 3, when the discount rate is 10% is:

\[
AF = \frac{1 - 1/(1.10)^3}{0.10}
\]

= 2.4868520, which can probably be rounded without too much loss of accuracy to 2.487.

A table of present value factors for annuities (to three decimal places) is provided in a table at the end of this text. These assume that the cash flows will occur at the end of each year.
Example

(a) What is the present value factor for a series of constant annual cash flows at the end of each year, Years 1 – 8, when the cost of capital is 12%?

(b) What is the present value of annual cash flows of S$120,000 per year at the end of each year in Years 1 – 7 when the cost of capital is 5%?

(c) How may you calculate the present value factor of an annuity from Years 6 to 10 inclusive?

Solution

(a) 
\[ AF = \frac{1 - 1/(1.12)^8}{0.12} \]

= 4.9676398, rounded to 4.968 to avoid an excessive number of digits.

(b) 
\[ PV = S$120,000 \times \frac{1 - 1/(1.05)^7}{0.05} \]

= S$120,000 \times 5.7863734 = S$694,365.

(c) Calculate the present value factor for an annuity for Years 1 – 10 and the present value factor for an annuity for Years 1 – 5. The present value factor for an annuity from Years 6 to 10 is the difference between these two amounts.

3.3.3 Present value of annual cash flows in perpetuity

You may not be familiar with the formula for the present value of an annual cash flow every year in perpetuity. The present value (PV) is a value for year \((n – 1)\) where the annual cash flow is in perpetuity for Year ‘n’ onwards, and the cash flows will occur at the end of each year.

\[ PV = \frac{A}{r} \]

where

\( A = \) the annual cash flow (which is assumed to occur at the end of each year)

\( r = \) the cost of capital (10% = 0.10, 8% = 0.08, etc)

For example, the Year 3 'present' value of S$300,000 per year in perpetuity from year 4 onwards, discounting at 12%, is S$2,500,000 (= S$300,000/0.12). This is then converted into a Year 0 present value using the discount factor for Year 3 at 12% (= 0.7117802) to get a PV of S$1,779,451.

Given the long time period (perpetuity!) it would make sense to round the present value figure to a convenient whole number, such as S$1,780,000 in the above example.

3.3.4 Present value of cash flows in perpetuity, assuming a constant annual growth rate

Calculating the discounted value of annual cash flows in perpetuity from Year \(n\) onwards is often needed to estimate the terminal value of a business or an investment. The important point to remember is that the PV of an annual cash flow in perpetuity, assuming that the first cash flow is in Year \(n\), is a present value as at Year \((n – 1)\). This should then be further discounted to a Year 0 PV using the discount factor for Year \((n – 1)\).

Present value of cash flows in perpetuity, assuming a constant rate of growth.
When future cash flows are assumed to increase in perpetuity, and also grow by a constant annual percentage amount, a growth model can be used to calculate the present value of the future cash flows. The model assumes that cash flows will occur at the end of the year.

When the first cash flow is in Year 1, the present value in perpetuity assuming a constant annual growth rate in cash flows (and year-end cash flows), is:

\[ PV_0 = \frac{C_1}{r - g} \]

Where:

- \( PV_0 \) = the present value in Year 0
- \( C_1 \) = the annual cash flow at the end of Year 1
- \( g \) = the annual growth rate in cash flows, expressed as a proportion: for example 3% = 0.03
- \( r \) = the cost of capital/discount rate.

Similarly, when the first cash flow is in Year \((n + 1)\), the present value in perpetuity assuming a constant annual growth rate in cash flows (and year-end cash flows), is:

\[ PV_n = \frac{C_{n+1}}{r - g} \]

Where:

- \( PV_n \) = the present value in Year \(n\)
- \( C_{n+1} \) = the annual cash flow at the end of Year \((n + 1)\)

For example, if cash flows in perpetuity are expected to be S$100,000 in Year 6, increasing at a rate of 2% per year in perpetuity thereafter, and the cost of capital is 11%, the Year 5 PV of these future cash flows will be:

\[ S$100,000 / (0.11 - 0.02) = S$1,111,111. \]

To obtain a Year 0 present value, this should be discounted at the 11% discount factor for Year 5

\[ S$1,111,111 \times 0.593 = S$658,889. \]

This valuation of a present value of a cash flow in perpetuity with a constant growth rate each period is known as the Gordon growth model.

### 3.4 Mid-year discounting of cash flows

Discounted Cash Flow calculations are commonly based on the assumption that cash flows occur at the end of the time period to which they relate. The cash flows are therefore discounted using a discount rate for the end of the relevant time period. Since the timing of future cash flows is usually uncertain, it is convenient and prudent to assume that cash flows – especially cash inflows – will occur at the year end.

In your examination, however, you are more likely to be asked to assume that cash flows occur at an even rate throughout each year. For example, an examination question may state that: ‘Cash flows are expected to be earned and spent evenly over the years.’

Given such wording, you should **assume that cash flows occur on average mid-way through each year, which means that mid-year discount factors should be used**. If in doubt in your examination, state your assumption about the timing of cash flows. If the examination question does not give you any indication, it is probably advisable to assume mid-year cash flows for all cash flows except any immediate investment (in Year 0, for which the discount factor is 1.0).

For example, for the purpose of valuing a company or other existing business, it might be argued that the cash flows from business operations are earned throughout the year, and estimated cash flows for each year should be assumed to occur at the mid-year point on average rather than at the year end. If this
argument is accepted, it would be appropriate to discount the estimated cash flows to a present value using a mid-year discount rate, and not an end-of-year discount rate.

A mid-year discount rate is calculated as \( 1/(1 + r)^n \) where \( n \) represents a mid-year figure. For example, for cash flows in Year 1, \( n = 0.5 \); for cash flows in Year 2, \( n = 1.5 \); for cash flows in Year 3, \( n = 2.5 \).

For example, at a cost of capital of 8% and assuming that cash flows occur at an even rate throughout the year, the present value (discount) factor for a cash flow in Year 6 will be:

\[
\frac{1}{(1.08)^{5.5}} = 0.6548915
\]

**Example**

An investment is expected to provide net cash inflows of S$400,000 in Year 1, S$500,000 in Year 2 and S$300,000 in Year 3. The cost of capital is 14%. Cash flows are assumed to occur at an even rate throughout each year.

What is the total present value of these cash flows?

**Solution**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow S$</th>
<th>Discount factor at 14%</th>
<th>Present value S$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>400,000</td>
<td>( 1/(1.14)^{0.5} ) = 0.9366</td>
<td>374,640</td>
</tr>
<tr>
<td>2</td>
<td>500,000</td>
<td>( 1/(1.14)^{1.5} ) = 0.8216</td>
<td>410,800</td>
</tr>
<tr>
<td>3</td>
<td>300,000</td>
<td>( 1/(1.14)^{2.5} ) = 0.7207</td>
<td>216,210</td>
</tr>
<tr>
<td>Total PV</td>
<td></td>
<td></td>
<td>1,001,650</td>
</tr>
</tbody>
</table>

The effect of the assumption that mid-year discount factors should be used for a valuation of a business is to increase the valuation, compared with using end-of-year discount factors.

- For example, the difference between the PV of S$600,000 in Year 8 assuming an end-of-year cash flow and the PV of S$600,000 in Year 8 assuming a mid-year average cash flow, at a cost of capital of 12%, is that the end of year cash flow PV is smaller by a factor of \( (1/1.12)^{0.5} = 0.9449 \).
- To adjust from a PV calculated using an assumption of year-end cash flows, to a PV that assumes mid-year cash flows, the required adjustment is:
  
  \[ \text{PV based on year-end cash flows} \times (1 + r)^{0.5} \]

- To calculate the present value of an annuity assuming mid-year cash flows, it is probably easiest to calculate the PV of the annuity assuming end-of-year cash flows and then multiply your resulting PV by a factor of \( 1/(1 + r)^{0.5} \).

**3.5 Applying the DCF method of business valuation**

The DCF method of share valuation of a business involves estimating the future cash flows that will be earned from the business and discounting these to a present value. Any additional capital expenditures in Year 0 should be deducted in arriving at the valuation.
Example

Big Company is considering a takeover bid for 100% of the share capital of Target Company, and is making a valuation. If the cost of capital used is 12%, what would be a DCF valuation if:

(a) The relevant annual cash flows of Target would be $300,000 each year, and Big Company values the business over a time period of the next ten years and assumes that the business has no remaining/residual value at the end of ten years.

(b) The relevant annual cash flows of Target would be $300,000 each year, and Big Company values the business on the basis of its expected annual cash flows in perpetuity.

(c) The relevant annual cash flows of Target would be $300,000 each year for the next three years, but with growth in the global economy, relevant annual cash flows would rise to $400,000 in every subsequent year:

(i) Value over a 10-year period, and assuming that the business has no remaining/residual value at the end of ten years.

(ii) Value in perpetuity.

For all these calculations, assume that the cash flows occur at an even rate throughout each year.

Solution

Given estimates of annual cash flow and a cost of capital, the valuation of the business of Target Company is straightforward.

(a) Valuation of cash flows over a ten-year period

Annual cash flow: $300,000

Annuity present value factor at 12% for Years 1 – 10:

\[
AF = \frac{1 - 1/(1.12)^{10}}{0.12} = 5.650
\]

Valuation: $300,000 \times 5.650 = $1,695,000

This assumes end-of-year cash flows.

Convert to a present value assuming mid-year cash flows: $1,695,000 \times (1.12)^{0.5} = $1,793,819. This might be rounded to $1,790,000.

(b) Valuation of cash flows in perpetuity

Valuation = $300,000/0.12 = $2,500,000

(c) Change in annual cash flow from Year 4 onwards

(i) Annuity present value factor at 12% for Years 1 – 3:

\[
AF = \frac{1 - 1/(1.12)^{3}}{0.12} = 2.402
\]

Annuity present value factor at 12% for Years 1 – 10 (calculated above): 5.650

Valuation over a 10-year time period

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>Present value factor at 12%</th>
<th>Present value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 3</td>
<td>$300,000</td>
<td>2.402</td>
<td>$720,600</td>
</tr>
<tr>
<td>4 – 10</td>
<td>$400,000</td>
<td>(5.650 – 2.402) = 3.248</td>
<td>$1,299,200</td>
</tr>
<tr>
<td>Valuation</td>
<td></td>
<td></td>
<td>$2,019,800</td>
</tr>
</tbody>
</table>
This assumes end-of-year cash flows.
Convert to a present value assuming mid-year cash flows: $2,019,800 \times (1.12)^{0.5} = $2,137,555

(ii) Valuation in perpetuity
The discounted value of $400,000 each year in perpetuity from Year 4 onwards at a cost of capital of 12% is $400,000/0.12 = $3,333,333. However, this is a valuation as at the end of Year 3 (= beginning of Year 4). To obtain a present value, this must now be discounted from a Year 3 value to a Year 0 value.

The following table shows the use of mid-year discount factors.

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
<th>Mid-year discount factor at 12%</th>
<th>Present value $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300,000</td>
<td>$(1/1.12)^{0.5} = 0.9449$</td>
<td>283,470</td>
</tr>
<tr>
<td>2</td>
<td>300,000</td>
<td>$(1/1.12)^{1.5} = 0.8437$</td>
<td>253,110</td>
</tr>
<tr>
<td>3</td>
<td>300,000</td>
<td>$(1/1.12)^{2.5} = 0.7533$</td>
<td>255,990</td>
</tr>
<tr>
<td>4 onwards</td>
<td>3,333,333</td>
<td>$(1/1.12)^{2.5} = 0.7533$</td>
<td>2,511,000</td>
</tr>
</tbody>
</table>

Valuation $3,303,570$

This valuation may be rounded to $3,300,000.

This example shows that the valuation of a business depends on:

(a) The selection of the time period over which cash flows will be valued
(b) Estimates of the annual cash flows
(c) Whether cash flows are assumed to occur mid-year or at the end of the year
(d) The cost of capital: a lower cost of capital produces a higher valuation

3.5.1 Exit value, terminal value or closing value for a business

A problem with the DCF valuation of a business is that cash flows beyond the first few years are usually difficult to estimate, so an assumption has to be made about the value of the business after a reasonable planning horizon. As the previous example shows, this ‘terminal value’ or ‘closing value’ of the business may be the largest portion of the total estimated value. The terminal value may be estimated as a constant annual cash flow for every year in perpetuity after the end of the period covered by the DCF calculation.

- It may be assumed that annual cash flows after a certain future year will be a constant amount in perpetuity.
- Alternatively, it may be assumed that cash flows will increase at a constant annual rate of growth in perpetuity, say 4% or 5% every year.

However, since this closing value may be a large proportion of the total business valuation, this uncertain estimate for future cash flows can be critically important for the valuation. The importance of the assumption about growth rate can be illustrated with a simple example.

Example

A company is expected to provide annual cash flows of $300,000 in Year 1, increasing by 5% per year until Year 5. Assume that cash flows occur at the end of each year. The cost of capital is 10%.

Required

Calculate a DCF-based value for the business on the assumption that:

(a) Cash flows from Year 6 onwards will show no growth – ie they will be the same as in Year 5.
(b) Cash flows from Year 6 onwards will grow at a rate of just 3% per year in perpetuity.
Solution

PV of cash flows for years 1 – 5:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow $</th>
<th>Discount factor 10%</th>
<th>Present value $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>300,000</td>
<td>0.909</td>
<td>272,700</td>
</tr>
<tr>
<td>2</td>
<td>315,000</td>
<td>0.826</td>
<td>260,190</td>
</tr>
<tr>
<td>3</td>
<td>330,750</td>
<td>0.751</td>
<td>248,393</td>
</tr>
<tr>
<td>4</td>
<td>347,288</td>
<td>0.683</td>
<td>237,198</td>
</tr>
<tr>
<td>5</td>
<td>364,652</td>
<td>0.621</td>
<td>226,449</td>
</tr>
<tr>
<td>Total years 1 – 5</td>
<td></td>
<td></td>
<td>1,244,930</td>
</tr>
</tbody>
</table>

(a) If cash flows from Year 6 onwards are $364,652 in perpetuity, these will have a Year 5 value of $3,646,520 (= $364,652/0.10) and a Year 0 PV of ($3,646,520 × 0.621) = $2,264,489. This is almost double the present value of the cash flows in Year 1 – 5.

(b) If cash flows from Year 6 onwards increase by 3% each year, the Year 5 terminal value, using the growth model for cash flows, is:

\[
\frac{364,652 \times (1.03)}{(0.10 - 0.03)} = 5,365,594
\]

This is more than four times bigger than the valuation of the Years 1 – 5 cash flows.

This should illustrate the significance of the assumption about the future growth rate in the terminal valuation.

(Note: The Year 6 cash flow is calculated as the Year 5 cash flow plus growth of 3%.)

3.5.2 Estimating a growth rate in perpetuity

If you are required to calculate the value of a business, and as a part of this you need to calculate a terminal value for the business, you must make an assumption about what the future annual growth rate in cash flows will be in perpetuity.

One assumption is to assume that there will be no further growth in annual cash flows, so that annual cash flows in perpetuity will be a constant amount.

An alternative assumption, and one that you may wish to use in your examination, is that annual cash flows after the end of the initial investment period will increase at the same rate as the expected rate of inflation. In other words, cash income and cash expenditures will all increase each year at the expected rate of inflation. If an examination question indicates what the expected rate of inflation will be, we recommend that you should state and then use this assumption to make your business valuation.

Question 3.1

You have been asked to prepare an estimated valuation for a private company. You have estimated in some detail cash flows from the company’s business for the next five years, and your estimate of cash flows in Year 5 will be $200,000. The expected annual rate of inflation for the foreseeable future is 2.5%. The discount rate used for the valuation should be 12%.

Required

Calculate an estimated terminal value for this company.
3.6 Free cash flow

The previous example began with an estimate of the annual cash flows of a business. Obviously, it is necessary to make an estimate of the cash flows. Annual cash flows can be estimated as the annual free cash flow of the business, and a number of adjustments may be required to prepare an estimate of annual cash flows, given information about estimated profits. As you will be aware, profits are not the same as cash flows.

**Free cash flow to the firm (FCFF)** can be defined as the amount of cash available to a business each year, after allowing for all the essential payments of cash for other purposes. It is the ‘surplus cash’ for the business owners after all other demands on cash have been taken into consideration, such as payments of taxation. There are differing views about what ‘other demands on cash’ should include. In the examples in this chapter, taxation and investment in working capital are the only items included in the calculation of free cash flow. Another view is that another ‘demand on cash’ is essential replacement of capital equipment so that the business can continue in operation and essential capital expenditure should therefore be deducted to arrive at free cash flow.

A simple model for calculating annual free cash flow is as follows (ignoring expenditure to replace non-current assets):

<table>
<thead>
<tr>
<th>Calculation Step</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings (profit) before interest and tax (EBIT)</td>
<td>$X</td>
</tr>
<tr>
<td>Subtract: Taxation on profits</td>
<td>$(X)</td>
</tr>
<tr>
<td>Add back: Depreciation and other non-cash items such as amortisation of intangible assets (since these are not cash flow items)</td>
<td>X</td>
</tr>
<tr>
<td>Subtract: Essential or unavoidable capital expenditure</td>
<td>$(X)</td>
</tr>
<tr>
<td>Adjust for expected changes in net working capital</td>
<td>X or X</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>X</td>
</tr>
</tbody>
</table>

**Notes on the calculation of FCFF**

(1) **Taxation cash flow**

In an examination question, you may be given simplifying assumptions about taxation; alternatively you may be expected to make an assumption in order to calculate taxation, given a rate of taxation on profits in the examination question.

A useful assumption, in the absence of any other given in the examination question, is that taxation is payable on the amount of profit before taxation. In making this assumption, it is presumed that the tax relief on capital expenditure each year is exactly equal to the charge against profits for depreciation and amortisation.

This model of free cash flow assumes that the business valuation required is a valuation of the business as a whole, equity plus debt capital. This is why there is **no adjustment for interest cost** in the figures. If a valuation is required for the equity of the business only, a suitable approach would be to calculate the value of the business as a whole and then subtract a valuation for the debt capital. Bank loans are usually assumed to have a ‘market value’ equal to the amount of the loan.

In practice, adjustments may sometimes be needed to this simple model.

(a) If the business used leased assets, the full annual cost of the lease should be deducted to obtain free cash flow, because lease payments are a cash flow (payment) to the lessor.

(b) If the business is expected to grow each year, ‘replacement’ capital expenditure should be the essential capital expenditure to support the business growth and there will also be some reduction in free cash flow because of the need to invest in more working capital.
There may be additional costs or cost savings in some or all of the years, to allow for expected changes after the business has been acquired. Any estimates of annual cost savings, for example, will probably be stated in cash flows before taxation.

(2) Essential capital expenditure

Essential capital expenditure each year may be a large amount; therefore the assumption that is used about the amount of essential capital spending is extremely important.

- Unless specific information is provided about this, a reasonable assumption would be that essential capital expenditure each year is equal to the annual depreciation charge, because this would be a rough estimate of the cost of buying new non-current assets to replace those that are wearing out. However, it is not entirely satisfactory as an assumption.

- An alternative assumption is to ignore essential capital expenditure entirely in the calculation of FCFF. This is a simple assumption to make, but it is highly unsatisfactory because it ignores an important cash flow item for the business.

(3) Changes in working capital

The calculation of FCFF needs to allow for expected increases or reductions in net working capital. Net working capital is normally measured for this purpose as the sum of inventory and trade receivables, minus trade payables. In each year, an increase in net working capital reduces FCFF, and a reduction in net working capital increases FCFF.

In an examination question, make sure that you explain clearly how you have reached your estimate of free cash flow to the firm (FCFF).

Example

ABC Limited is considering the acquisition of another company, XYZ Private Limited. It is understood that the owners of XYZ are looking for a sale price of around S$4,000,000.

The accounting department of ABC has made the following estimates of the future profitability of XYZ.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated profit before tax (S$ million)</td>
<td>0.3</td>
<td>0.4</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Depreciation and amortisation</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Investment in extra working capital</td>
<td>0.3</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is estimated that cash flows will increase by 2% every year in perpetuity after Year 6, in line with the expected rate of inflation. XYZ has no debt capital.

Taxation is at the rate of 20%. The cost of capital to apply to the potential investment in XYZ is 10%.

Assume that cash flows occur at an even rate throughout each year.

Required

Should ABC agree to acquire XYZ Private Limited for S$4 million, if it is known that the owners of XYZ will not accept a lesser amount?

For the purpose of this example, annual spending on essential capital expenditure will be ignored.
### Solution

It is assumed that tax is payable on the amount of profit before tax.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before tax ($ million)</td>
<td>0.30</td>
<td>0.40</td>
<td>0.50</td>
<td>0.60</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Taxation at 20%</td>
<td>0.06</td>
<td>0.08</td>
<td>0.10</td>
<td>0.12</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>Add: Depreciation and amortisation</td>
<td>0.24</td>
<td>0.32</td>
<td>0.40</td>
<td>0.48</td>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>Investment in extra working capital</td>
<td>(0.30)</td>
<td>–</td>
<td>–</td>
<td>(0.20)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>0.04</td>
<td>0.42</td>
<td>0.50</td>
<td>0.38</td>
<td>0.50</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Terminal value, assuming 2% growth in free cash flow in perpetuity:

\[
\text{S}\$0.50 \text{ million} \times \frac{1.02}{0.10 - 0.02} = \text{S}\$6.375 \text{ million}
\]

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free cash flow</td>
<td>0.04</td>
<td>0.42</td>
<td>0.50</td>
<td>0.38</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>Terminal value</td>
<td>6.375</td>
<td>6.875</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid-year discount factor at 10%</td>
<td>0.953</td>
<td>0.867</td>
<td>0.788</td>
<td>0.716</td>
<td>0.651</td>
<td>0.592</td>
</tr>
<tr>
<td>Present value</td>
<td>0.038</td>
<td>0.364</td>
<td>0.394</td>
<td>0.272</td>
<td>0.326</td>
<td>4.070</td>
</tr>
<tr>
<td>Total present value = S$5.464 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since the total expected present value of the investment exceeds the proposed purchase price of S\$4 million, the purchase should be agreed. It ought to add value to ABC Limited, provided that the estimates of future cash flows (and expected future cash flows) are accurate/reliable.

#### Which discount factor: mid-year or end-of-year?

For a company that is considering the acquisition of another business, end-of-year discount rates would probably be more appropriate in practice, even though in principle an assumption of mid-year cash flows (and even cash flows throughout the year) would seem valid. An assumption of end-of-year cash flows produces a more conservative valuation. In addition, valuations should be based on expected returns on investment. In acquiring another company, the cash flows from the acquired subsidiary will be remitted to the parent at intervals (as dividend payments) and not continually throughout the year.

On the other hand, if the valuation is being carried out by someone with an interest in obtaining a high valuation, mid-year discount factors might be used.

If large individual cash flows occur in mid-year, those individual cash flows should be discounted using a mid-year discount rate, as this most accurately reflects their present value.

It is recommended that when you carry out a DCF valuation of a business in your examination, check the information given to you in the examination question. It is likely that you will be expected to assume even cash flows throughout the year, and so mid-year discount rates should therefore normally be used for examination purposes. However, this may not always be the case.

#### 3.6.1 Adjustments to FCFF for one-off items of income or expenditure

In an examination question, you may be required to estimate free cash flows in future years by projecting forward cash flows that have occurred in the current year. It is quite usual, after all, to base future forecasts on current performance.

When you are estimating free cash flows in future years by adjusting cash flows for the current year, you should first remove from the current year cash flows any items that will not recur in future years. These adjustments should be based on information provided in an examination question.
Example

You are estimating free cash flows for your company for the next two years. You have calculated that the free cash flows in the current year were S$3,000,000. Items of cash income and cash expenditure will increase in line with inflation, which is expected to be 3% in each of the next two years.

The free cash flows for the current year were affected by an exceptional loss of S$200,000 on a project that has now been abandoned, and by spending on advertising which was $150,000 more than usual. Spending on advertising in the next two years is expected to revert to its previous level.

The rate of taxation on corporate profits is 17%.

Required

What should be the estimates of free cash flow for the next two years?

Solution

<table>
<thead>
<tr>
<th></th>
<th>Current year</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCFF in current year</td>
<td>3,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add back cash outflows from non-recurring items</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project loss</td>
<td>200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional advertising</td>
<td>150,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>350,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less taxation at 17%</td>
<td>(59,500)</td>
<td>290,500</td>
<td>3,290,500</td>
</tr>
<tr>
<td>Adjust for 3% annual inflation</td>
<td>3,389,215</td>
<td>3,490,891</td>
<td></td>
</tr>
</tbody>
</table>

The Year 1 and Year 2 estimates for FCFF will probably be rounded to a more convenient figure, such as S$3,400,000 in Year 1 and S$3,500,000 in Year 2.

3.7 Adjustments for debt capital and cash to obtain equity value

A DCF valuation of a business values the entire business. In order to establish a value for the equity shares in the business, it is necessary to make one and possibly two adjustments to the DCF valuation, as follows.

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated valuation for the business</td>
<td>X</td>
</tr>
<tr>
<td>Deduct value of debt capital</td>
<td>(X)</td>
</tr>
<tr>
<td>Add any surplus cash currently in the business</td>
<td>X</td>
</tr>
<tr>
<td>Estimated valuation of the company's shares</td>
<td>X</td>
</tr>
</tbody>
</table>

The value of debt should be taken at its nominal value, or at its value as shown in the statement of financial position.

When a company is holding cash that is surplus to the operational requirements of the business, the cash has no relevance to the business valuation. The total value of the business is therefore the DCF-based valuation of expected future cash flows, plus the surplus cash.
3.8 Shareholder value analysis (SVA)

Shareholder value analysis (SVA) is a technique for business valuation based on calculating the present value of estimated free cash flows. Many leading companies (including, for example, Pepsi and Disney) have used SVA as a way of linking management strategy and decisions to the creation of value for shareholders. The technique can also be used for other business valuations, such as making a valuation of a potential takeover target.

3.8.1 Seven value drivers

The SVA method of valuation of a business is based on estimated free cash flows and present values. The cash flows used for the valuation are the ‘free cash flows’ of the business. The definition of free cash flows for the purpose of SVA is explained later.

The SVA method identifies seven factors or value drivers that affect free cash flows and the valuation of the business.

- **Sales growth.** Sales growth may be expressed as a constant percentage rate of growth in sales revenue each year.
- **Operating profit margin.** This is the expected operating profit as a percentage of sales revenue. This is also assumed to have a constant percentage value each year.
- **Tax rate.** This is the rate of tax on operating profit. It is a ‘cash’ tax rate, and ignores deferred taxation.
- **Incremental working capital investment** each year (IWC). An additional working capital investment reduces free cash flow.
- **Investment in non-current assets**
  - **Investment in replacement of non-current assets** each year (RNC): this is the amount of investment needed to replace non-current assets reaching the end of their economic life. Ignoring inflation, it is often assumed that RNC is equal to the annual depreciation charge for non-current assets.
  - **Incremental essential expenditure on non-current assets** (INC): this is the investment each year in non-current assets in excess of the amount needed for the replacement of existing non-current assets. It is the essential additional expenditure in non-current assets that is required to support the growth in the business. INC reduces free cash flow.
- **The cost of capital.** This is used to discount future free cash flows to a present value.
- **The value growth duration.** This is the period of time during which the business is expected to achieve growth in its current form. After this value growth period, it is often assumed that free cash flows will be a constant annual amount.

Each of these value drivers affects the SVA valuation for a business.
3.8.2 Three steps in the SVA valuation method
There are three steps in the SVA method.

**STEP 1**
Calculate the value of the operational assets of the business.

**STEP 2**
Add the value of the non-operational assets, such as cash and investments.
The sum of the value of operational assets and non-operational assets is the total value of the business assets.

**STEP 3**
Subtract from this total the value of the company's debt. This gives a valuation for the business equity.

3.8.3 Valuation of operational assets
A valuation of the operational assets of the business can be made as follows.

(a) Estimate the free cash flow for each year of the 'value growth duration' period.
(b) Discount these annual cash flows to a present value (PV) using the cost of capital. Add these PVs to obtain the value of all expected future free cash flows during the 'value growth duration' period.
(c) Calculate a present value for all the expected annual free cash flows after the 'value growth duration'. This is usually a constant annual free cash flow in perpetuity.
(d) Add the value of free cash flows for the years during the 'value growth duration' period and those afterwards in perpetuity, to obtain a total valuation for the operational assets of the business.

3.8.4 Definition of free cash flow for the SVA method
For the purpose of the SVA method, the definition of annual free cash flow is a slight adjustment to the model shown earlier.

<table>
<thead>
<tr>
<th>Component</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating profit (profit before interest and tax)</td>
<td>X</td>
</tr>
<tr>
<td>Add back: Depreciation</td>
<td>X</td>
</tr>
<tr>
<td>Subtract</td>
<td></td>
</tr>
<tr>
<td>Taxation</td>
<td>(X)</td>
</tr>
<tr>
<td>Incremental working capital investment (IWC)</td>
<td>(X)</td>
</tr>
<tr>
<td>Replacement capital expenditure (RNC)</td>
<td>(X)</td>
</tr>
<tr>
<td>Essential additional capital expenditure (INC)</td>
<td>(X)</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>X</td>
</tr>
</tbody>
</table>

**Notes**

1. It is often assumed that the annual depreciation charge and replacement capital expenditure (RNC) are the same amount each year.
2. In an examination question, be prepared to include other unusual or 'one-off' items in the calculation of free cash flows.
**Example**

Rackets is a quoted company. Its forecast operating profit for the next year is S$156 million after deduction of a S$4 million depreciation charge. Tax on profits is estimated to be S$48 million. Shareholders require a return of 8% per annum. The company has no debt capital.

Non-essential non-current assets will be sold during the year and receipts are estimated to be S$12 million. There will be investment in non-current assets and working capital during the year of S$16 million. Annual free cash flows for the following years in perpetuity are estimated to be S$120 million.

**Required**

Calculate the value of Rackets using the SVA approach, assuming that:

(a) Cash flows occur at the end of each year
(b) Cash flows occur on average mid-way through each year.

**Solution**

*Free cash flow forecast for Year 1:*

<table>
<thead>
<tr>
<th>Amount (S$m)</th>
<th>Discount factor at 8%</th>
<th>Present value (S$m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.08</td>
<td>1/1.08</td>
<td>100.0</td>
</tr>
<tr>
<td>1,500</td>
<td>1/1.08</td>
<td>1,388.9</td>
</tr>
<tr>
<td>Valuation</td>
<td></td>
<td>1,488.9</td>
</tr>
</tbody>
</table>

*Valuation based on year-end cash flow assumption:*

The discounted value of the annual free cash flows from Year 2 onwards = S$120 million/0.08 = S$1,500 million as at the end of Year 1 (= beginning of Year 2).

*If we assume that cash flows occur mid-way through each year,* the valuation becomes:

S$1,488.9m × (1.08)^0.5 = S$1,488.9m × 1.03923 = S$1,547.3m.

**Example**

Use the SVA method to obtain a valuation for the equity of a company that is the target for a takeover bid. The following information is relevant.

Current annual sales: S$20 million
Value growth duration period: 5 years
Cost of capital: 10%

Other information:

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>After year 5 (annual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales growth (%)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Operating profit margin (% of sales)</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Corporate income tax rate (%)</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Essential incremental capital expenditure ($m)</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0</td>
</tr>
<tr>
<td>Incremental working capital investment ($m)</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0</td>
</tr>
</tbody>
</table>

Annual depreciation charges are S$4 million. Assume that tax is calculated on operating profit.
The company has investments with a market value of $2 million and the total value of its debt liabilities is $9 million.

**Solution**

In this example, the value of debt liabilities will be deducted from a total value for the business as a whole. The SVA valuation should therefore ignore interest costs and be a valuation for the business as a whole, equity plus debt.

It is assumed here that replacement expenditure on non-current assets each year will be the same as the depreciation charge. It is also assumed that cash flows occur at the end of each year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (S$m)</th>
<th>Operating profit (20% of sales) (S$m)</th>
<th>Tax (20%) (S$m)</th>
<th>Depreciation (S$m)</th>
<th>Replacement/incremental investment (S$m)</th>
<th>Free cash flow (S$m)</th>
<th>Year 5 Value (× 1/0.10) (S$m)</th>
<th>Discount factor at 10% (S$m)</th>
<th>PV of free cash flow (S$m)</th>
<th>Total PV of free cash flows: S$39.07m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6 onwards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S$m</td>
<td>S$m</td>
<td>S$m</td>
<td>S$m</td>
<td>S$m</td>
<td>S$m</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td>21.0</td>
<td>22.1</td>
<td>23.2</td>
<td>24.3</td>
<td>25.5</td>
<td>25.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating profit (20% of sales)</td>
<td>4.20</td>
<td>4.42</td>
<td>4.64</td>
<td>4.86</td>
<td>5.10</td>
<td>5.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax (20%)</td>
<td>(0.84)</td>
<td>(0.88)</td>
<td>(0.93)</td>
<td>(0.97)</td>
<td>(1.02)</td>
<td>(1.02)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replacement/incremental investment</td>
<td>7.36</td>
<td>7.54</td>
<td>7.71</td>
<td>7.89</td>
<td>8.08</td>
<td>8.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replacement non-current assets</td>
<td>(4.00)</td>
<td>(4.00)</td>
<td>(4.00)</td>
<td>(4.00)</td>
<td>(4.00)</td>
<td>(4.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essential additional capital investment</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>(0.05)</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental working capital</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.10)</td>
<td>(0.01)</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free cash flow</td>
<td>3.30</td>
<td>3.48</td>
<td>3.65</td>
<td>3.83</td>
<td>4.02</td>
<td>4.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 5 Value (× 1/0.10)</td>
<td>40.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount factor at 10%</td>
<td>0.909</td>
<td>0.826</td>
<td>0.751</td>
<td>0.683</td>
<td>0.621</td>
<td>0.621</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PV of free cash flow</td>
<td>3.00</td>
<td>2.87</td>
<td>2.74</td>
<td>2.62</td>
<td>2.50</td>
<td>25.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value of the operational assets is $39.07 million, rounded to $39.0 million.

<table>
<thead>
<tr>
<th>Valuation of operational assets</th>
<th>S$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of non-operational assets</td>
<td>2.0</td>
</tr>
<tr>
<td>Total value of all assets</td>
<td>41.0</td>
</tr>
<tr>
<td>Less value of debt</td>
<td>(9.0)</td>
</tr>
<tr>
<td>Equals value of equity</td>
<td>32.0</td>
</tr>
</tbody>
</table>
Question 3.2 Green Company valuation

Blue Company intends to make a takeover bid for Green Company (Green), which is a company in the same industry. The most recent annual data for Green is shown below.

<table>
<thead>
<tr>
<th>Green</th>
<th>$000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenue</td>
<td>6,000</td>
</tr>
<tr>
<td>Operating costs</td>
<td>3,480</td>
</tr>
<tr>
<td>Tax allowable depreciation</td>
<td>700</td>
</tr>
<tr>
<td>Earnings before interest and taxation</td>
<td>1,820</td>
</tr>
<tr>
<td>Interest</td>
<td>860</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>960</td>
</tr>
<tr>
<td>Tax at 30%</td>
<td>288</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>672</td>
</tr>
<tr>
<td>Dividends</td>
<td>410</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>262</td>
</tr>
<tr>
<td>Annual replacement capital expenditure</td>
<td>790</td>
</tr>
</tbody>
</table>

Other information

<table>
<thead>
<tr>
<th>Green</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected annual growth in sales, operating costs including depreciation, replacement capital expenditure and dividends for the next 4 years</td>
<td>4%</td>
</tr>
<tr>
<td>Expected annual growth in these items from year 5 onwards</td>
<td>0%</td>
</tr>
<tr>
<td>Cost of capital</td>
<td>10%</td>
</tr>
</tbody>
</table>

Required

Using free cash flow analysis, and making any assumptions you consider necessary, calculate a total value for the equity and debt capital in Green Company, assuming that:

(a) Cash flows occur at the end of each year
(b) Cash flows occur mid-way through each year.

SECTION SUMMARY

A business can be valued on the basis of the cash flows that it is expected to generate in the future, in the same way as investments such as shares and bonds are valued on the basis of their expected future cash returns. Cash flow based valuations may involve estimates of free cash flows, which should be discounted to arrive at a present valuation.

Shareholder value analysis is a method of making a cash flow-based valuation based on free cash flows, which are not expected to remain constant each year in perpetuity.

Cash flow-based valuations are probably the most appropriate when reasonable estimates of future cash flows can be made. There are alternative methods of valuation, however, based on non-cash values such as earnings or Economic Value Added.
4 Market-based methods of business valuation

SECTION INTRODUCTION

Three market-based methods of valuation are the P/E ratio valuation method, a valuation based on a multiple of EBITDA, and the Future Maintainable Earnings (FME) method. The Price/Earnings Ratio (P/E ratio) method is a simple method for making an approximate valuation of the equity of a company. The Earnings Before Interest, Taxation, Depreciation and Amortisation multiple (EBITDA multiple) method can be used to value a total company and the equity element within this total value. The Future Maintainable Earnings (FME) method may be used to value private companies where it is not possible to make reliable estimates of future cash flows, so that a cash flow based valuation is not really possible.

4.1 P/E ratio method of equity valuation

This is a method of valuing the equity capital of a private (unquoted) company. It values the equity of the company by applying a multiple to annual earnings. This multiple is the P/E ratio, which is simply the ratio between share price and Earnings Per Share (EPS).

Since P/E ratio = Share market price/EPS

It follows that:

\[
\text{Share price} = \text{EPS} \times \text{P/E ratio}
\]

Alternatively the total value of a company's equity can be calculated as follows:

\[
\text{Value of equity} = \text{Annual earnings} \times \text{P/E ratio}
\]

(Earnings Per Share is simply the annual profit attributable to equity shareholders, divided by the number of equity shares in issue. Adjustments may have to be made when calculating historical EPS, for example when new shares are issued during the course of the year, but this should not be an issue affecting business valuations using the P/E method. For details on how to calculate historical EPS, see FRS 33).

This method of valuation depends on making assumptions about:

- The value of annual earnings or EPS. The EPS could be a historical EPS or a prospective future EPS.
- An appropriate P/E ratio. A higher P/E ratio will result in a higher valuation, and the selection of a P/E ratio is therefore extremely important.

Unfortunately, the choice of P/E ratio for valuation of a private company's shares is largely a matter of judgement and guesswork.

(a) A starting point is the actual P/E ratio of a quoted company that is similar to the private company. Typically this is a company (or companies) in the same industry and the same country. Alternatively an average of the P/E ratios for several quoted companies in the same industry could be calculated.

(b) A P/E ratio for the private company should then be decided by choosing a ratio that is lower than the P/E ratio for the quoted company. This may be about 50% – 70% of the P/E ratio of the quoted company. A lower P/E ratio is used when a private company is likely to be less well-established and so more of an investment risk. In addition, a lower P/E ratio is used to value an unquoted company because its shares are less liquid than a quoted company equivalent; therefore its shares are worth less: they are less attractive to investors because they are inherently more difficult to re-sell. However in Singapore some of the largest and most well-established
companies are family-controlled private companies and a higher P/E ratio would apply to these in cases where an earnings multiple valuation is required.

(c) As stated above, the P/E ratio for a private company should be lower than the P/E ratio for a quoted company because of the lack of marketability of private company shares. A Discount for Lack Of Marketability (DLOM) should therefore be applied. There are different models used to estimate what an appropriate discount percentage should be, but in general many studies have suggested that the DLOM should be about 30% to 50%. In other words, if we are using a P/E ratio basis for valuation of shares, the P/E ratio for a private company should be about 50% – 66.7% of the P/E ratio for a comparable quoted company.

(d) A relatively high P/E ratio should be selected when the annual earnings of the company are expected to increase rapidly in the future.

(e) However, there is no rational or 'scientific' basis for selecting the P/E ratio for the private company. It is a matter of judgment.

(f) For examination purposes, if you are required to use the P/E ratio valuation method and you are not given a suitable P/E ratio to apply, you might take a figure around one half to two thirds of the industry average, or the P/E ratio for a similar quoted company, when valuing an unquoted company. It may also be appropriate to provide a range of valuations, based on a higher and a lower P/E ratio. However, you should make it clear to the marker what assumptions you are making, and your reasons for choosing them.

4.1.1 What is the industry average P/E ratio?

Deciding the industry average P/E ratio is not as straightforward as it may seem, because there are different measures of average. In particular, an average may be measured as a mean value or as the median value. (Confusingly perhaps, examination question may refer to the mean as the 'average'.)

Example

You have been asked to recommend a suitable P/E ratio multiple for making a valuation of a private company. There are seven public listed companies in the industry, and the P/E ratios of these are as follows, in ascending order of value:

<table>
<thead>
<tr>
<th>Company</th>
<th>P/E ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
<td>6.9</td>
</tr>
<tr>
<td>Company B</td>
<td>12.7</td>
</tr>
<tr>
<td>Company C</td>
<td>13.4</td>
</tr>
<tr>
<td>Company D</td>
<td>14.1</td>
</tr>
<tr>
<td>Company E</td>
<td>14.6</td>
</tr>
<tr>
<td>Company F</td>
<td>15.1</td>
</tr>
<tr>
<td>Company G</td>
<td>28.2</td>
</tr>
</tbody>
</table>

**Average = mean** 15.0

Required

Recommend a P/E ratio to use for a valuation of the private company.

Solution

The median value of these P/E ratios is the fourth in the rising sequence of seven company P/E ratios (since the median value is the value of item number \((7 + 1)/2 = 4\)).
It can be argued that the low P/E ratio of Company A and the high P/E ratio of Company G are not typical, and they should be excluded from the calculation of an average P/E ratio. If so, a suitable choice of P/E ratio might be the P/E ratio of the median company, Company D, which is 14.1.

Alternatively you could take the mean P/E ratio value of the companies, excluding the extreme values of Company A and Company G. This mean value would then be: \((12.7 + 13.4 + 14.1 + 14.6 + 15.1)/5 = 13.98\), rounded to 14.0.

To use a P/E ratio multiple to calculate a value for the equity shares in a private company, a discount for lack of marketability should be applied.

It may therefore be suggested that a suitable P/E ratio for the valuation is, say, \(67\% \times 14.1 = 9.4\).

Your opinion may be different, but in answer to an examination question, state your assumptions and your reasons as clearly as possible.

### 4.1.2 Problems with using P/E ratios

However there are problems with using the price-earnings ratios of quoted companies to value unquoted companies, except for the purposes of making an approximate assessment.

(a) Finding a quoted company in the same industry with a similar range of activities may be difficult. Quoted companies are often much more diversified than private companies.

(b) If annual earnings are volatile, using an earnings figure for a single year may be inappropriate.

(c) The quoted company may have a different capital structure from the unquoted company, and gearing (leverage) affects the valuation of equity.

(d) Deciding on the P/E ratio for a private company, given a P/E ratio for a similar quoted company, is guesswork.

(e) P/E ratios for quoted companies move up and down as share prices on the stock market fluctuate.

The P/E ratio method is also a method of valuation based mainly on figures for profitability, ignoring other non-financial factors that might affect the valuation. For example, if the target company is in a different country, there could be problems with managing a remote subsidiary company, and problems with differences in legislation and culture between the countries.

A valuation may also be affected by the possibility of greater government regulation due to the size of the combined group after the takeover, and risks of measures by the government to restrict anti-competitive behaviour by large companies in the market.

Non-financial issues that may affect a company valuation are discussed in more detail later in this chapter.

### Example

Spider is considering the takeover of an unquoted company, Fly. Spider's shares are quoted on the Stock Exchange at a price of $3.20. The most recent published EPS for Spider is $0.20, which means that the company's P/E ratio is 16. Fly is a company with 100,000 shares and current earnings of $50,000. How might Spider decide on an offer price for the shares of Fly?

### Solution

The decision about the offer price is likely to be preceded by the estimation of a 'reasonable' P/E ratio in the light of the particular circumstances.

(a) If Fly is in the same industry as Spider, its P/E ratio ought to be lower because of its lower status as an unquoted company.
(b) If Fly is in a different industry, a suitable P/E ratio might be based on the P/E ratio that is typical for quoted companies in that industry.

(c) If annual earnings of Fly are growing rapidly, so that its EPS increase in the years to come, the P/E ratio for the share valuation will be higher than if only small EPS growth is expected.

(d) If the acquisition of Fly would contribute substantially to Spider's own profitability and growth, then Spider should be willing to offer a higher P/E ratio valuation, in order to secure acceptance of the offer by Fly's shareholders.

The P/E ratio on which Spider bases its offer will probably be lower than the P/E ratio that Fly's shareholders think their shares ought to be valued on. Some haggling over the price might be necessary.

- Spider might decide that Fly's shares ought to be valued on a P/E ratio of 60% $\times$ 16 = 9.6. This would value the equity shares of Fly at $50,000 \times 9.6 = $480,000.
- Fly's shareholders might reject this offer, and suggest a valuation based on a P/E ratio of, say, 12.5. This would give a valuation of $50,000 \times 12.5 = $625,000.
- Spider's board of directors may then come back with a revised offer, based on a P/E ratio of 10.5: $50,000 \times 10.5 = $525,000.

The negotiations may continue until they either break down in disagreement or reach agreement on a purchase price.

### 4.1.3 Use of forecast earnings

When one company is thinking about taking over another, it should use the target company's forecast earnings, rather than its historical results, for a P/E ratio valuation.

Forecasts of earnings growth should only be used if:

(a) There are good reasons to believe that earnings growth will be achieved.

(b) A reasonable estimate of growth can be made.

(c) Forecasts supplied by the target company's directors are made in good faith and using reasonable assumptions and fair accounting policies. A buying company should try to verify that the target company's forecasts for earnings have not been inflated.

(d) Forecasts are subject to review (independent if possible) and assessed to be reasonable.

This means that if there are reasons for expecting that annual earnings (after tax) of the target company will change in the future, the expected changes should be included in the forecast of future earnings.

#### Question 3.3

Big Company wishes to make a takeover bid for the shares of an unquoted company, Small Company. The earnings of Small Company over the past five years have been as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>20X0</td>
<td>$50,000</td>
</tr>
<tr>
<td>20X1</td>
<td>$72,000</td>
</tr>
<tr>
<td>20X2</td>
<td>$68,000</td>
</tr>
<tr>
<td>20X3</td>
<td>$71,000</td>
</tr>
<tr>
<td>20X4</td>
<td>$75,000</td>
</tr>
</tbody>
</table>

The average P/E ratio of quoted companies in the industry in which Small Company operates is 10. Quoted companies which are similar in many respects to Small Company are:

(a) Company A, which has a P/E ratio of 15, but is a company with very good growth prospects

(b) Company B, which has had a poor profit record for several years, and has a P/E ratio of 7

What would be a suitable range of valuations for the shares of Small Company?
4.2 EBITDA multiple method of valuation

Instead of valuing a company's equity shares on a P/E ratio multiple, a valuation of the entire company could be made using a multiple of EBITDA (Earnings Before Interest, Tax, Depreciation and Amortisation). The EBITDA multiple may be referred to as the Enterprise Value/EBITDA multiple (or EV/EBITDA multiple.)

The value of the company's equity can then be obtained by deducting the market value of the company's debt from this total valuation.

The choice of EBITDA multiple should be based on similar considerations as selecting a P/E ratio multiple for the P/E ratio method of valuation. If there are several quoted companies similar to the private company that is being valued, select the mean or the median value for the EBITDA multiple of these companies, excluding any outliers. (Outliers are extreme values that are abnormally high or abnormally low. These are excluded because they distort the average. An average calculated without any outliers is considered more representative of a 'fair' or 'realistic' average value.)

A downward adjustment should also be made to allow for unquoted status of the target company.

Adjustments should also be made, where appropriate, for other risk factors in a takeover, such as country risk (where the target company operates in a different country), and regulatory risk (for example if a takeover might be subject to the competition laws of the country).

There are two reasons why valuation using an EBITDA multiple may be preferred to using a P/E ratio multiple.

(a) A suitable multiple for a P/E ratio is obtained by taking a median value or mean value for the P/E ratios of a number of comparable companies. However reported earnings of similar companies may differ due to differences in depreciation and amortisation policies. It might therefore be more appropriate to remove differences in depreciation and amortisation charges by using EBITDA as the basis for comparison rather than profits after tax (earnings).

(b) EBITDA may be seen as a useful estimate of a company's free cash flow (assuming that capital expenditure each year is similar to the amount of the depreciation and amortisation charges). If this is the case, a valuation based on a multiple of EBITDA can be seen as a valuation based on estimated free cash flows. The market approach to valuation will then have some similarities with an income approach.

Example

You are given the following information about ABC (Pte) Limited and DEF Limited.

<table>
<thead>
<tr>
<th></th>
<th>ABC (Pte) Limited</th>
<th>DEF Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA</td>
<td>600</td>
<td>2,000</td>
</tr>
<tr>
<td>Depreciation and amortisation</td>
<td>(100)</td>
<td>(600)</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>1,400</td>
</tr>
<tr>
<td>Interest</td>
<td>(50)</td>
<td>(300)</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>450</td>
<td>1,100</td>
</tr>
<tr>
<td>Tax</td>
<td>(54)</td>
<td>(132)</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>396</td>
<td>968</td>
</tr>
<tr>
<td>Current market value of equity</td>
<td>16,000</td>
<td></td>
</tr>
<tr>
<td>Market value of debt capital</td>
<td>1,000 (estimate)</td>
<td>8,000</td>
</tr>
</tbody>
</table>

The P/E ratio for DEF is currently 16.5 (16,000/968). A much lower P/E ratio should be used to value the private company, ABC. Let's assume that a P/E ratio of 10 is considered appropriate. The valuation of ABC's equity would be ($396,000 × 10) $3,960,000.
The ratio of total company value to EBITDA for DEF is currently 12 (24,000/2,000). Let's assume that an EBITDA multiple of 7 is considered appropriate for a valuation of ABC in total. The valuation would be $4,200,000 ($600,000 \times 7), and after deducting the estimated value of debt, $1,000,000, we reach a valuation of $3,200,000 for the equity of ABC.

A valuation based on comparison with just one quoted company is not entirely satisfactory, and the selection of P/E ratio multiple and EBITDA multiple adjustments are arbitrary. However, this example should illustrate the differences in the two valuation methods, and indicate that the methods will produce different valuations.

4.3 When to use a market-based approach to valuation

Selecting a market approach to valuation, such as a P/E ratio multiple method or EBITDA multiple method may be appropriate in the following circumstances:

- When there are a large number of comparable businesses whose values are known.
- When there are insufficient estimates of future cash flows or operating profits for the business, so that a Discounted Cash Flow valuation of estimated future cash flows is not possible or would be based on unreliable estimates.
- As an alternative method of valuation, that provides a cross-check for the reasonableness of a valuation based on discounting estimated future cash flows.

4.3.1 Selecting an appropriate market multiple

When using a P/E ratio multiple or an EBITDA multiple approach to valuation of a business or a company's equity, a decision has to be made about the size of a suitable P/E ratio or EBITDA multiple. If there are a number of similar quoted companies (whose P/E ratios and EBITDA multiples will be known, from stock market data), how should the P/E or EBITDA multiple be selected?

The following approach may be taken, but there are several uncertainties in the approach.

- First, it would be appropriate to select only those suitable comparable companies that operate in the same geographical regions. For example, to estimate a value for a Singapore company, use values of comparable companies in South East Asian countries, and do not use comparisons with companies that operate in, for example, the USA or Europe. However an examination question may encourage you to base a P/E ratio or EBITDA multiple on a number of quoted companies worldwide.

- Use an average value of the P/E ratios or EBITDA multiples of the companies that have been identified as ‘comparable’. An ‘average’ may be a mean value or a median value.

- To value a private company, adjust the average value for the P/E ratio or EBITDA multiple that has been selected to allow for the fact that private company shares have a much lower value than comparable shares in quoted public companies. As indicated above, a suitable multiple might be in the range 50% to 70% of the multiple for comparable quoted companies.

Example

You have been asked to prepare a valuation of the total value of a private company that operates in Singapore, Malaysia and Indonesia, applying an EBITDA multiple method of valuation to the company's expected EBITDA in the next financial year. The private company is expected to achieve EBITDA of $1 million next year. The following information is available about quoted companies in the same industry.
### Solution

The EBITDA multiples of quoted companies in South East Asia can be used to obtain a suitable EBITDA multiple for the private company, but the EBITDA values for the companies in Europe and the USA should not be used, on the assumption that valuations differ between regions of the world.

A suitable average could be either an arithmetic mean or the median value.

(a) Mean EBITDA = \((6.2 + 4.1 + 7.4 + 5.3 + 4.8 + 5.5 + 8.7)/7 = 6.0\)

(b) Median EBITDA of 4.1, 4.8, 5.3, 5.5, 6.2, 7.4 and 8.7 is 5.5

In this example, the mean value of 6.0 will be used, although it may be argued that the mean EBITDA is perhaps too high due to the influence of the outlying high values of 7.4 and 8.7 in the calculation.

To value a private company, a much lower EBITDA should be used. This is a matter of judgement, and there may be information about other recent market transactions that can be used as a guide to what the discount should be. In the absence of any other information, it is assumed here that a suitable EBITDA multiple will be 60% of the mean for the quoted companies, ie 60% of 6.0 = 3.6.

The valuation of the private company is therefore $1,000,000 \times 3.6 = $3,600,000.

If you disagree with any of the assumptions used in this valuation, you may appreciate the difficulties in obtaining a reliable valuation that different interested parties can agree on.

### Question 3.4

**Choosing a P/E ratio**

Large Company is considering the takeover of an unquoted company, Little Company. The board of directors of Large are considering whether to make an offer for Little on the basis of a P/E ratio multiple. The following information is available about quoted companies that are similar to Little.

<table>
<thead>
<tr>
<th>Company</th>
<th>Average P/E ratio, last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>17.7 times</td>
</tr>
<tr>
<td>B</td>
<td>14.2 times</td>
</tr>
<tr>
<td>C</td>
<td>39.7 times</td>
</tr>
<tr>
<td>D</td>
<td>15.2 times</td>
</tr>
<tr>
<td>E</td>
<td>41.0 times</td>
</tr>
<tr>
<td>F</td>
<td>16.5 times</td>
</tr>
<tr>
<td>G</td>
<td>15.7 times</td>
</tr>
<tr>
<td>H</td>
<td>18.1 times</td>
</tr>
<tr>
<td>Mean P/E ratio, all 8 companies</td>
<td>22.3</td>
</tr>
<tr>
<td>Median P/E ratio, all 8 companies</td>
<td>17.1</td>
</tr>
<tr>
<td>Mean P/E ratio, excluding outliers</td>
<td>16.2</td>
</tr>
<tr>
<td>Median P/E ratio, excluding outliers</td>
<td>16.1</td>
</tr>
</tbody>
</table>
What P/E ratio multiple would you use for a valuation of Little, based on this information?

4.4 Future Maintainable Earnings method of valuation

The Future Maintainable Earnings (FME) method of valuation is derived from and is a simplification of the Discounted Cash Flow method. It can be used to obtain a valuation for a private business in cases where the DCF method is inappropriate because estimates of future cash flows are unreliable or unavailable.

There are three main steps in the FME valuation method.

**Step 1:** Estimate the future earnings of the business. This should be an estimate of the annual earnings of the business, with some relevant adjustments, that the business is expected to maintain in the future. This estimate should be based on a study of historical and forecast operating results, and other factors that may be important such as the sensitivity of earnings and growth to foreseeable changes in the business environment.

**Step 2:** Decide an appropriate capitalisation rate that reflects the buyer's required return on investment, risks in the business, future growth prospects and other alternative investment opportunities. This rate is used to convert maintainable annual earnings into a valuation for the business.

**Step 3:** Make a separate assessment of the value of other assets (and liabilities) that do not affect maintainable earnings and which could be sold separately. An example of such assets would be investments (including cash) held as current assets. Another might be an unused building.

4.4.1 Estimate the future earnings of the business

The first step is to make an estimate of the Future Maintainable Earnings of the business. This estimate should take into consideration:

- The consistency of annual earnings in the past
- Whether there is an upward or downward trend in annual earnings
- Possible threats (and opportunities) that could affect future earnings

The **initial earnings estimate** should be an estimate of operating profit, which is **profit before deducting**:

- Depreciation
- Finance charges
- The salary and benefits of the business owner

Non-recurring items, or items that do not relate to the business operations (such as interest on short-term investments) should be excluded.

The **initial earnings estimate should be adjusted**, and deductions should be made for:

- A provision for annual replacement of capital equipment, and
- A 'market' cost for the salary of all working owners in the business

The resulting estimate is an estimate of maintainable earnings after taking into account regular (replacement) capital expenditures and the cost of all labour inputs.
4.4.2 Capitalisation rate
The next step is to decide a capitalisation rate to apply to the maintainable annual earnings. This may be expressed as a multiple or a percentage annual return. The choice of capitalisation rate is a matter for judgement and negotiation.

For example, a capitalisation multiple of 5 times is equal to an annual return of 20% (= 1/5 × 100%) on maintainable annual earnings in perpetuity.

With valuation of small private companies, the required return could be very high, say 25% or 33.3%, giving a multiple of maintainable earnings of just 3 or 4.

A would-be purchaser of a small private company may be able to get advice about current capitalisation rates from an investment bank or may seek the advice of a Chartered Accountant of Singapore working in a Public Accounting Entity (PAE) with expertise in this area.

The value of the business, excluding items that do not affect maintainable earnings, is calculated as:

\[
\text{Estimate of maintainable annual earnings} \times \text{Capitalisation rate}
\]

The value of goodwill in the business could be calculated as:

- Total valuation
- Minus: Revised net asset values

4.4.3 Valuation of other assets and liabilities
An assessment should be made of the value of assets (and liabilities) in the business that do not affect maintainable annual earnings. An example is the value of any short-term investments held by the business. The total value of the business is the value of maintainable annual earnings plus the value of additional assets, minus the value of any liabilities.

Remember the difference between the valuation of the business as a whole (equity plus long-term capital) and the valuation of the business equity. A valuation of the business should be reduced by the value of long-term debt to obtain a value for the equity.

4.5 Surplus cash assets in a business
A company that is subject to a takeover bid may hold a substantial amount of assets that are surplus to operational requirements, such as surplus cash or cash equivalents. A valuation of the company using a market approach or an income approach will not recognise the existence of these assets (even though they clearly have a monetary value) as they play no part in generating earnings.

As part of a takeover arrangement, it may be agreed that the target company should be allowed to distribute all its surplus cash (and cash equivalents) to its shareholders in a special dividend, before the acquisition takes place. This will remove the cash from the company, and the cash therefore need not be included in the valuation and purchase price.

If however the target company is acquired with its holdings of cash, the cash should be added to the market-based or income-based valuation.

Similarly, if you are asked to assess the value of a company that holds excess assets such as cash or cash equivalents, you should add the value of those assets to any valuation that you make using a market or income approach to the valuation.
SECTION SUMMARY

An alternative approach to a cash-based approach is a market approach to business valuation based on a multiple of annual earnings (equity valuation) or a multiple of EBITDA (total company valuation and/or equity valuation). The P/E ratio and EBITDA multiple methods can both be used to value the equity shares in a private company, but this method is unreliable because the choice of P/E ratio or EBITDA multiple is largely subjective, and estimates of future earnings or EBITDA may be unreliable. The Future Maintainable Earnings method is similar in many respects, since it applies a capitalisation multiple to estimates of maintainable annual earnings.

Another approach that could be used is an Economic Value Added and Market Value Added approach to valuation. This is more complex than a simple earnings multiple approach but is not a cash flow-based valuation method.

For both DCF-based valuations and market-based business valuations, any surplus assets in a business (such as surplus cash or cash equivalents) should be added to the final valuation, because they have value in themselves but are not contributing value to the business operations. Consequently surplus assets are additional value.

5 Economic Value Added (EVA)® and Market Value Added (MVA)

SECTION INTRODUCTION

Another approach to the valuation of companies is to calculate how much value is added to the company each year, and use this annual increase in value as a basis for making a valuation for the company. One approach to measuring the increase in value during a year is to measure Economic Value Added or EVA®. (EVA is a registered trademark of the consultancy firm Stern Stewart & Co (www.sternstewart.com).)

Economic Value Added or EVA is a measure of performance that provides a useful assessment of how much shareholder value has been added during a period.

One method of measuring the creation of shareholder value is to take the change in the share price during the period and add dividend payments. However, this measure of the increase in shareholder value is unreliable and so unsatisfactory, because short-term movements in share prices are dependent on factors other than financial performance.

It is usual to assess management performance by the profit earned during a period or the return on investment ROI (or return on net assets, RONA). However, accounting profit is an unsatisfactory measurement of shareholder value added.

5.1 The concept of Economic Value Added

Measuring EVA is a complex calculation, but the basic concept is very simple.

- A business should be charged for the capital that it uses. This should include a cost for equity capital as well as debt capital.
- A business, and each operating division within the business, should make profits that are at least sufficient to cover the cost of capital (equity and debt).
PART B INVESTMENT APPRAISAL | 3: Business valuation techniques

- If operating profit after tax exceeds the capital charge, economic value has been added and shareholder value has been created.
- If operating profit is not sufficient to cover the capital charge, value has been lost.

The Economic Value Added during a period is calculated as Net operating profit after tax – (Capital employed × Cost of capital %).

Net operating profit after tax = NOPAT, so:

\[
\text{EVA} = \text{NOPAT} - (\text{Capital employed} \times \text{Cost of capital }\%)
\]

Where:

1. Cost of capital is the weighted average of the cost of equity and cost of debt capital.
2. Capital employed is the capital employed at the beginning of the financial year, with some adjustments (as described later).
3. The net operating profit figure is after deduction of tax. The cost of interest on debt capital is included in the capital charge; therefore interest costs are not deducted in arriving at the figure for NOPAT, and the benefit of any tax relief on interest payments should not be included either.

5.2 Calculating EVA

Stern Stewart & Co argued that accounting measurements of operating profit and capital employed are unreliable and unrealistic, and that the values that should be used are:

- The economic value of capital employed, and
- An estimate of economic profit.

These values can be estimated by making adjustments to the accounting figures for capital employed and profit. Stern Stewart & Co originally identified 164 adjustments to make, but many do not affect the measurements materially and so can be ignored.

5.2.1 Adjustments to capital employed

Some adjustments should be made to the accounting value of capital employed (as shown in the statement of financial position) to arrive at an estimate for the economic value of capital employed.

(a) Expenditure on 'intangible items' that add value to the business should not be charged in full against income in the year the expenditure is incurred. Instead, it should be capitalised, and then amortised over the period in which it provides value to the business. An example is spending on research and development. It may also be argued that some spending on training and/or on advertising to develop a brand name are items that should be capitalised and amortised over several years.

(b) Provisions or allowances in the accounting statement of financial position are not 'real' reductions in capital, and should be added back. So any deferred tax reserve and allowance for doubtful debts should be added back to capital.

(c) On the other hand, long-term leases should not be capitalised. If they have been capitalised, they should be deducted from capital. The rent paid on a lease is a measure of its economic cost. If a lease has been capitalised, it should be deducted from capital. In the calculation of economic profit, amortisation of the lease should be removed as an expense and replaced by the actual lease payment for the year.
Capital employed can be measured as follows:

<table>
<thead>
<tr>
<th></th>
<th>S$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td>X</td>
</tr>
<tr>
<td>Minus</td>
<td></td>
</tr>
<tr>
<td>Non-interest bearing current liabilities (such as trade payables)</td>
<td>(X)</td>
</tr>
<tr>
<td>Plus</td>
<td>X</td>
</tr>
<tr>
<td>Non-current assets and intangible assets, net of depreciation/amortisation and impairment</td>
<td></td>
</tr>
<tr>
<td>Plus (or minus)</td>
<td></td>
</tr>
<tr>
<td>Adjustments to assets/equity as described above</td>
<td>X(X)</td>
</tr>
<tr>
<td>Equals: Capital employed</td>
<td>X</td>
</tr>
</tbody>
</table>

5.2.2 Economic profit: adjustments to NOPAT

Some adjustments must also be made to the accounting figure for NOPAT in order to reach an estimate of the economic profit before capital charge.

(a) Amounts charged as an expense in the income statement that should be capitalised (such as research and development expenditure) should be added back to profit. Instead, an amortisation charge should be made for the loss of economic value in the intangible asset during the period.

(b) Depreciation and finance charges for leased assets should be added back to profit, but the actual lease rental should be deducted.

(c) The tax charge in calculating NOPAT should be the actual amount of tax that the company expects to pay on its profits for the year, and should exclude adjustments for deferred tax.

5.2.3 Capital charge

The capital charge for the year is the economic value of capital employed multiplied by the company’s Weighted Average Cost of Capital. Usually, the Weighted Average Cost of Capital (WACC) is applied to the capital employed as at the beginning of the year.

5.2.4 EVA and depreciation and impairment of non-current assets

The adjustments to capital employed and NOPAT do not include any adjustment for the depreciation and impairment of non-current assets. The reason why depreciation and impairment charges are not added back is that they are treated as a proxy for actual cash flows on repairs and maintenance.

Non-current assets lose economic value each year, and it is appropriate to make a charge for this loss of value. It is often assumed that accounting depreciation is a reasonable approximation of economic depreciation of tangible non-current assets. For this reason, there is no adjustment to EVA for accounting depreciation charges.

Notes

EVA is not an estimate of cash flows and should not be confused with free cash flow.

NOPAT is an estimate of economic profit, and it includes charges for depreciation and amortisation.

The charge for the cost of capital includes a charge for the cost of equity, which is not a cash item of cost.

A simplified example is shown below to illustrate how EVA might be calculated.
Example

At the beginning of a financial year, a company's capital employed was $150 million (accounting measurements). During the year, the company's reported profits were as follows.

<table>
<thead>
<tr>
<th></th>
<th>$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before interest and tax</td>
<td>19.0</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(4.0)</td>
</tr>
<tr>
<td>Taxation</td>
<td></td>
</tr>
<tr>
<td>Tax on current year profits</td>
<td>3.0</td>
</tr>
<tr>
<td>Deferred tax</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit after tax</td>
<td></td>
</tr>
<tr>
<td>Dividends</td>
<td>(4.0)</td>
</tr>
<tr>
<td>Retained profit for the year</td>
<td>6.0</td>
</tr>
</tbody>
</table>

The following additional information is available

1. For the first time, the company has invested in research and development. Expenditure during the year was $5 million and the full cost has been written off as an expense in the income statement. To measure EVA, it should be assumed that the amortisation charge for R&D for the year should be $1 million.
2. There was an increase in the allowance for irrecoverable debts from $2.0 million to $2.5 million. This item was the only difference at the beginning of the year between the accounting value and the economic value of capital employed.
3. Taxation is 20% of profits.
4. The company's Weighted Average Cost of Capital is 10%.

Required

(a) Calculate an estimate of economic value added for the year. Assume for the purpose of this example that the capital charge is calculated using the value of capital employed at the beginning of the year.

(b) Calculate the economic value of the company's capital employed as at the beginning of the following financial year.

Solution

<table>
<thead>
<tr>
<th>Capital employed</th>
<th>$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the beginning of the year (accounting value)</td>
<td>150.0</td>
</tr>
<tr>
<td>Add back: Allowance for irrecoverable debts</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Year-end economic value of capital employed</strong></td>
<td><strong>152.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before interest and tax</td>
<td>19.0</td>
</tr>
<tr>
<td>Tax charge on profit</td>
<td>(3.0)</td>
</tr>
<tr>
<td>Tax relief on debt interest (20% × $4 million)</td>
<td>(0.8)</td>
</tr>
<tr>
<td><strong>NOPAT</strong></td>
<td><strong>19.7</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjustments</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in allowance for irrecoverable debts</td>
<td>0.5</td>
</tr>
<tr>
<td>R&amp;D expenditure capitalised</td>
<td>5.0</td>
</tr>
<tr>
<td>Amortisation of R&amp;D</td>
<td>(1.0)</td>
</tr>
<tr>
<td><strong>NOPAT</strong></td>
<td><strong>19.7</strong></td>
</tr>
</tbody>
</table>
5.3 Market value added: MVA

Market value added or MVA is a measurement of value that builds on the EVA model. EVA measures the economic value that has been added to a company during a financial year. MVA is a measurement of the value of the EVA that will be achieved by the company for a number of years in the future, discounted to a present value.

\[
MVA = V - K
\]

where:

- \( MVA \) is market value added
- \( V \) is the market value of the firm, including the value of the firm's equity and debt
- \( K \) is the capital invested in the firm

MVA is the present value of a series of EVA values. MVA is economically equivalent to the traditional NPV measure of worth for evaluating an after-tax cash flow profile of a project if the cost of capital is used for discounting.

5.4 EVA and MVA as a valuation method for companies

EVA and MVA could be used as a method of putting a valuation to a company (public or private company) or to an operating division of a company. A valuation could be obtained as follows.

\[
\begin{align*}
\text{Current economic value of assets} & \quad X \\
\text{Add} & \quad \text{Estimated MVA} \\
\text{Equals} & \quad \text{Valuation of company/division} \\
& \quad X + Y
\end{align*}
\]

The MVA can be calculated by estimating the expected EVA for the company or division over a selected number of years into the future. These EVAs should then be discounted to a present value using a suitable cost of capital, to obtain a valuation for MVA.

**Example**

AB is a public limited company. It is considering a takeover bid for YZ, a private company. AB needs to decide a price that it is prepared to offer for the acquisition of the shares in YZ.

The accounts of YZ for the past few years have been analysed, and adjustments have been made to obtain an estimated economic book value of the assets of YZ. This is $60 million. It has also been estimated that for each of the past five years, YZ has made Economic Value Added of $3 million.

AB is prepared to pay for the economic value of YZ's assets plus a premium based on MVA. It will calculate MVA as the PV of expected annual EVAs for the next ten years. It is estimated that EVA will be $3 million in each of these years. A suitable cost of capital to apply to the valuation is 8%.
The price that AB will offer is therefore calculated as follows:

<table>
<thead>
<tr>
<th></th>
<th>$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current economic value of assets</td>
<td>60.0</td>
</tr>
<tr>
<td>Estimated MVA (rounded to 1 decimal place, see working)</td>
<td>20.1</td>
</tr>
<tr>
<td>Valuation of company</td>
<td>80.1</td>
</tr>
</tbody>
</table>

**Working: Calculation of MVA**

Annual EVA = $3 million  
Annuity discount factor, years 1 – 10, at 8% = 6.710  
MVA = $3 million \times 6.710 = $20.13 million

#### 5.5 Advantages and disadvantages of EVA and MVA for valuation

There are several **advantages** with the EVA/MVA valuation method.

(a) The concept is quite simple, although the calculation of EVA might be complex.  
(b) It can be applied to private companies and also to divisions of companies.  
(c) It links the valuation of companies to the creation of shareholder value. (Research appears to show that over time, changes in the MVA of companies have been closely correlated to EVA.)

There are also several **disadvantages** with the EVA/MVA valuation method.

(a) To use EVA for a company valuation involves estimates of EVA in future years. EVA was originally devised as a historical measure of past performance.  
(b) It could be argued that a valuation based on the PV of free cash flows from the acquired company would be more appropriate than a valuation based on a conceptual value such as EVA.

**SECTION SUMMARY**

Another method of valuation for a business is based on estimates of **Economic Value Added**. This calculates the PV of expected annual EVAs over a future period as **Market Value Added (MVA)**. The valuation of a company is its MVA plus the economic value of the company's assets.

It is debatable whether this method of valuation is preferable to a cash flow-based valuation, based on estimates of free cash flows.
6 Strategic issues in business valuation

SECTION INTRODUCTION

The previous sections have described mathematical ‘models’ for business valuation. The data about future profits or cash flows that are used in these models are based on expectations about the future. A business will have a higher valuation if its future prospects indicate strong growth than if it has little or no prospects for growth.

Business valuations should take into consideration the circumstances of a business, in particular the environment and industry in which it operates and the resources and competences that it has at its disposal.

This section considers these environmental and resource issues, and their implications for valuation.

6.1 Environmental analysis: PESTEL analysis

Companies operate within a broad business environment which changes continually. There are many factors in the environment, such as the state of the economy, social issues and technological change, which can affect the future business prospects for a company, creating both opportunities for growth and also threats to profits.

In calculating a valuation of a business, it is necessary to study the environment in which the business operates in order to make judgements about what might happen in the future as that environment changes. New threats and opportunities may be identified that could affect the business, and if so, this will affect its valuation.

PESTEL analysis is a useful method of analysing significant factors in the business environment. This method analyses the business environment into six parts or segments, and involves:

- Identifying factors in each sector of the environment that could affect the future of the business, and
- Assessing how significant, favourable or unfavourable, each of these factors might be.

The six different segments of the environment are:

- Political
- Economic
- Socio-cultural
- Technological
- Environmental
- Legal

(Note: You may also come across the term PEST analysis. This simply combines social and environmental factors into a single segment, and political and legal factors into another single segment.)

PESTEL analysis is concerned only with the external environment in which a business operates, not the internal capabilities of the business organisation and its resources.

Taking each segment in turn, the business valuer should try to identify the factors that are important for the business, and so may have a big influence on its activities in the future.

6.1.1 The political environment

Government policy and politics can affect the global and national economies. Governments should be responsible for creating a stable framework in which businesses can exist and operate (although some
countries do not have a stable government). A report by the World Bank some years ago suggested that government policy is important in providing three things for business:

- Physical infrastructure (such as a transport network and water supplies)
- Social infrastructure (such as an education system, and law enforcement)
- Market infrastructure (creating a business environment in which business can flourish successfully and anti-corruption measures are enforced).

Political change, or the prospect of political change, may affect a business, especially when it operates in countries where there is political instability.

Examples of political risk are the threat of wars, political chaos, corruption in government, changes in major policies and nationalisation of companies. Answers to the following question could affect the future of a business, and so its value:

1. How stable is the political system of the country or countries in which the business operates?
2. How strong is the government’s commitment to maintaining a competitive business environment, supporting ownership rights or contractual rights, given its ideology and power?
3. How long is the current government likely to remain in power?
4. If the current government is replaced, what changes might the new government introduce?
5. What might be the effects of any such changes on the business?

Example

The future for companies in the energy sector will depend to a large extent on government policies, energy supplies and power generation. For example a switch of government policy from coal-fired electricity generation to nuclear power or renewable energy will have significant consequences for companies in the energy generation industry.

6.1.2 The economic environment

The future prospects for a business are inevitably affected by economic conditions, and expectations of changes in economic conditions, such as the general state of global and national economies, foreign exchange rates, interest rates, and rates of price inflation. If the economy in which a company operates is entering into recession, the valuation of the business should be reduced to reflect this, since economic conditions affect customer demand, profits and cash flows.

Economic conditions are linked to some extent to the political environment, because the economic policies of a government, including its taxation policies and spending plans, have a significant effect on business. Changes in economic policy can affect future prospects for company profitability, and so affect valuations (up or down).

6.1.3 The socio-cultural environment

Elements in this environment include the make-up of the population and changes in the population (demographics); and also the attitudes, cultural beliefs, tastes and habits of the population.

Some socio-cultural factors are listed in the following table.
<table>
<thead>
<tr>
<th>Factor</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in the size or in the age distribution of the population</td>
<td>Changes in the population may affect the future business prospects of a company. For example, an ageing population is likely to have a growing demand for medical services, and this will affect the future prospects of companies that make medical products or provide medical services and support.</td>
</tr>
<tr>
<td>Change in household structure</td>
<td>A country may experience a change in social attitudes towards the size of a household, and how many individuals in the same family should share the same home. Any such change could affect the demand for real estate (homes) and for household products.</td>
</tr>
<tr>
<td>Wealth distribution</td>
<td>If there is a small section of society whose wealth is increasing rapidly, business opportunities will improve for companies that provide luxury products and wealth management services.</td>
</tr>
<tr>
<td>Social habits</td>
<td>Social habits may change, especially in response to developments in technology. Mobile phone technology, for example, is changing what people do and the way that they conduct their lives. This has created many new business opportunities.</td>
</tr>
</tbody>
</table>

For the purpose of business valuation, a key question is whether changes in the socio-cultural environment will affect the future prospects for a business. If a business may be expected to benefit or suffer from changes, its value will be affected.

### 6.1.4 The technological environment

Technology and technological developments can increase total business output and profitability. Some businesses will be expected to benefit more than others.

- Gains in **productivity** from technological improvements make it possible to produce more output per unit of input resource
- Reduced **costs**, such as lower costs of communications, increase profits
- New technology creates opportunities to invent **new types of product** that customers will buy.

Companies should respond to changes in technology. If they do not their future survival could be at risk. From the perspective of valuation, businesses that are well placed to benefit from technological change should be more valuable than those that are not. Values will fall in an industry that is in structural decline.

### 6.1.5 The natural environment

The natural environment is important as a source of resources for business, but also because of increasing regulation by governments to preserve and protect the environment.

Business value may be created by an ability to use scarce natural resources, such as water, more efficiently.

On the other hand, value may be damaged by increasingly stringent government regulations, the costs of complying with them and penalties for breaching them.

**'Green' issues and corporate strategy**

Concerns about environmental protection ('green' issues) currently affect different countries in different ways and to a different extent. It seems probable, however, that over time 'green' issues will increasingly become a key factor influencing business activities, profitability and value.
### Possible environmental issue

<table>
<thead>
<tr>
<th>Possible environmental issue</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer demand for environmentally-friendly products</td>
<td>There may be strong growth in consumer demand for environmental-friendly products, such as products that use wood from sustainable forests.</td>
</tr>
<tr>
<td>Scarcity of key resources such as fresh water and rare minerals</td>
<td>Companies may also be involved in the search for new sources of scarce resources (such as gas and oil).</td>
</tr>
<tr>
<td>Demand for less pollution in industry</td>
<td>Governments in many countries have introduced regulations to restrict pollution of air, land, sea and rivers. Anti-pollution regulations are likely to become more severe over time.</td>
</tr>
<tr>
<td>Re-cycling of used materials</td>
<td>In some countries there is a well-established market in recycling used goods, to re-use the materials (such as paper, glass and metal) from which the used goods were made.</td>
</tr>
<tr>
<td>Waste minimisation and energy efficiency</td>
<td>Savings through waste minimisation and energy efficiency schemes can be substantial.</td>
</tr>
<tr>
<td>Taxation</td>
<td>Governments may introduce taxes on industrial waste.</td>
</tr>
</tbody>
</table>

### 6.1.6 The legal environment

Companies must operate within the law and costs of compliance with laws and regulations can be very high.

Changes in the law, like changes in government policies, can affect business operations, profits and values.

### 6.2 Environmental analysis: the industry and competition

PESTEL analysis is an approach to analysing the broad business environment and how this might affect all businesses, to a greater or lesser extent.

The future prospects, profitability and value of businesses also depend on factors in the particular industry and markets in which a company operates. **The strength of competitive factors in one industry differs from those in other industries.** As a result, some industries are potentially more profitable than others for the companies that operate in them.

- Companies are likely to enjoy high profits in industries and markets where competitive factors are weak.
- Similarly, profitability will be limited in industries and markets where competitive factors are strong.

Porter's Five Forces model provides a useful approach to the analysis of competition and profitability in an industry.

### 6.2.1 Porter's Five forces model

Porter explained differences in profitability between different industries in terms of his Five Forces model. He argued that some industries offer opportunities for bigger profits than other industries, because of differences in the nature of competition between the industries.

Five competitive forces influence the state of competition in an industry, and collectively determine the profit potential of the industry as a whole.

- The threat of **new entrants** to the industry
- The threat of **substitute** products or services
The 5 Forces model: outline structure

- The bargaining power of customers
- The bargaining power of suppliers
- The rivalry amongst current competitors in the industry

The threat of new entrants (and strength to barriers to entry to keep them out)

A barrier to entry into an industry is a factor that makes it difficult for new companies to enter into the market as new competitors.

A new entrant into an industry brings extra capacity and more competition, and this will result in lower prices and lower profits for all the companies in the industry.

Profitability is therefore more likely to be low when barriers to entry are low (and it is fairly easy for new companies to enter into the industry); and profitability is more likely to be high when barriers to entry are high.

**Examples of factors that may affect barriers to entry**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economies of scale</td>
<td>In some industries, companies must incur high fixed costs. Where fixed costs are high, companies need to achieve high sales volumes to make a profit. High sales volumes reduce average unit costs, but the breakeven point is likely to be high. For a new entrant into the market, it may not be possible to achieve high sales volumes quickly. High fixed costs and the need to achieve 'economies of scale' to be profitable therefore create high barriers to entry.</td>
</tr>
<tr>
<td>Capital requirements</td>
<td>When capital investment requirements are high, the barrier against new entrants will be strong, particularly when the investment would possibly be high-risk. New entrants may be reluctant to invest large amounts of capital in a high-risk venture.</td>
</tr>
<tr>
<td>Knowledge requirements</td>
<td>As well as high capital requirements, knowledge and know-how are also barriers to entry. It can be difficult to enter an industry which requires significant specialist knowledge, skills and experience.</td>
</tr>
</tbody>
</table>

The threat from substitute products

A substitute product is a good or service produced by another industry which satisfies the same customer needs. Substitutes are always present, but they can be easy to overlook because they may be very different from the industry's product. For example:

- Video conferencing could be a substitute for business travel.
- Tablet computers could be a substitute for television sets.

Substitutes are products that provide competition, but they are not goods or services produced by competitors in the same industry.
The existence of possible substitutes affects profitability within an industry because if companies raise their prices too far, customers may switch to buying substitute products. Companies within the industry may need to keep prices reasonably low – and so keep profits fairly low – to prevent this from happening.

The bargaining power of customers

The bargaining strength of customers refers to the extent to which customers are able to influence prices in an industry. Customers will want lower prices, and if they have strong bargaining power, prices and profits for companies in the industry will be low. Bargaining powers for individual customers may be significant, for example, if they command a large share of the market.

The bargaining power of suppliers

The profitability of companies in an industry also depends on the bargaining strength of suppliers of goods and services to the industry, and the ability of suppliers to charge high prices. When suppliers can charge high prices, and companies cannot pass their higher costs on to their own customers, profitability in the industry will be low.

The strength of the rivalry among current competitors in the industry

The intensity of competitive rivalry within an industry will affect the profitability of the industry as a whole. Competitive actions might take the form of price competition, advertising battles, sales promotion campaigns, introducing new products for the market, improving after sales service or providing guarantees or warranties. Competition can stimulate demand, expanding the market, or it can leave demand unchanged, in which case individual competitors will make less money, unless they are able to cut costs.

<table>
<thead>
<tr>
<th>Factors that affect the intensity of competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market growth rate</td>
</tr>
<tr>
<td>Cost structures in the industry</td>
</tr>
<tr>
<td>Barriers to exit</td>
</tr>
<tr>
<td>Excess capacity</td>
</tr>
</tbody>
</table>

6.2.2 Using the Five Forces model

The Five Forces model is useful for analysing profitability and prospects for profitability in the future within an industry. This can be an important consideration in business valuations. It may support the view that a business has strong growth prospects and so should have a high valuation. Alternatively, it may indicate that prospects for growth are poor, and companies in the industry may not command a high valuation.
Example: Telecommunications in Zambia

This case study example relates to the telecommunications industry in Zambia during 2013. Suppose you were to be given the task of valuing Zamtel.

The telecommunications market in Zambia was dominated by mobile network operator Bharti Airtel (formerly Zain) which had a market share of 65%. However the second-placed network, MTN (formerly Telecel) from South Africa had the fastest growth in subscriber numbers, and enjoyed a market share of 26%.

- The third competitor in the mobile market, Cell Z, had a market share of 7%. Cell Z was the mobile division of the national telecommunications provider Zamtel (Zambia Telecommunications Ltd).
- However, the government had opened the way for a fourth mobile service provider, and by early 2013 bids had been received from five telecom operators, including Vodacom of South Africa.
- The entry of a fourth provider would increase competition in the sector, generate sustainable improvements in the quality of services, reduce tariffs and extend service outreach to more areas.

Against this background of growth, Zamtel was performing poorly in the mobile telecommunications market as well as the fixed-line sector, despite having monopoly rights over the fixed-line sector, including the international gateway. However the Zambia government had now signalled it was going to end Zamtel's monopoly on the international gateway.

The government also established a new licensing regime that would enable more competition in all sectors of the telecommunications market, from existing and new players. With penetration rates in all sectors still below regional averages, the growth prospects for telecoms companies in Zambia were excellent.

One of Zamtel's key assets was a national fibre network which included connections to neighbouring countries and which would provide transit links to international submarine fibre optic cables off the African east and west coasts. However, alternative domestic fibre networks were already being installed by three other companies, and one of them had recently completed the country's first ever connection to an international submarine fibre optic cable. Alternative international fibre links reduce the dependency of users on a single provider.

Analysis

In this case study, there are some factors that may support a high valuation of Zamtel: the main factor is the potential for further growth in the telecommunications industry in Zambia. Other factors are Zamtel's ownership of the national fibre optic network although there were rival networks under development by rival companies.

Factors indicating that the valuation should not be too high are the low market share of Zamtel, especially in the mobile network, and the prospect that this share would be reduced by the entry of a new competitor in the market. The existence of rival fibre optic networks, by increasing the choice for customers, will also strengthen customer buying power.

On balance, Zamtel should possibly be valued on a lower market multiple (P/E ratio multiple) than rival companies in the industry, because it is not in a strong position in the industry (in spite of growth prospects) and profit margins may be expected to fall in the future as new competition enters the market.
6.3 Opportunities and threats

Changes in the business environment, as indicated by PESTEL analysis or by Five Forces model analysis, may indicate strong or weak prospects for a company in its industry.

- Environmental changes that create prospects for greater profits and higher values are opportunities.
- Environmental changes that create prospects for lower profits and lower values are threats.

6.4 Strategic capability and competitive advantage

A company's ability to survive and prosper depends on its strategic capability. Strategic capability may therefore be defined as a set of competences, resources and skills that can create competitive advantage for an organisation. (Competence is the ability to do something well.) The value of a company can be considered in terms of the competitive advantage that it has over its rivals and the effect of this advantage on prospects for future profits.

**Competitive advantage** is the ability of an organisation to compete successfully against its competitors, using its resources, skills and competences. **Sustainable competitive advantage** is competitive advantage that can be maintained over a long period of time.

Competitive advantage may be created by various strengths in the organisation's resources:

- Ownership of a scarce and valuable resource, and/or
- Particular competences that rival companies do not possess (a 'core competence').

Companies are in a poor position competitively when there are weaknesses in their resources or competences, and they:

- Have fewer or poorer quality resources than competitors, and/or
- Lack the competences to compete successfully.

6.5 SWOT analysis

SWOT analysis is a term for the analysis of strengths and weaknesses in the resources and competences of an organisation, and opportunities and threats in its business and competitive environment.

For the reasons explained above, SWOT analysis can be relevant to business valuations by identifying factors that are most likely to affect future business strategies and hence the value of the business.
Quick Quiz

1. Give four circumstances in which the shares of an unquoted company might need to be valued.
2. Suggest two circumstances in which net assets might be used as a basis for valuation of a company.
3. Give six examples of types of intangible assets.
4. Provide a definition of free cash flow.
5. What is the value of annual free cash flows of S$300,000 in perpetuity when the cost of capital is 15%?
6. How is the P/E ratio related to EPS?
7. How should Future Maintainable Earnings be adjusted if the owner of a private company pays himself/herself S$250,000 in salary and benefits in the year, when a more appropriate cost of his/her labour would be S$150,000?
8. In the context of the Economic Value Added model, what term may be used to describe the difference between the total market value of a company and the economic value of its assets (non-current assets and working capital)?
9. Using Porter’s Five Forces analysis, explain how the launch of the internet affected a traditional local stationery retailer.
1. (a) Setting an issue price if the company is floating its shares in an IPO
(b) For valuation purposes for a takeover bid
(c) For tax purposes (valuation of private company shares for inheritance tax purposes, or when a company donates shares to an Institution of a Public Character.)
(d) When shares are pledged as collateral for a loan

2. (a) As a measure of asset backing for a business
(b) As an absolute minimum value for a business

3. Patents; trademarks; brands; copyrights; franchises; research and development; employee know-how and experience

4. Free cash flow = Operating profit + Depreciation charge – Tax on profits – Replacement capital expenditure – Increase in net working capital or + reduction in net working capital

5. S$300,000/0.15 = S$2,000,000

6. P/E ratio = Share price/EPS

7. Maintainable annual earnings should be increased by S$100,000, because the current charge against earnings for the owner's labour is S$100,000 above a reasonable 'market' cost.

8. Market Value Added.

9. Threat of new entrants: Higher force due to lower set up costs (no shop needed for online retailers), and the global scope of the internet means new entrants from anywhere are a threat.

Threat of substitutes: Higher, and computers replace traditional pens and paper.

Rivalry: Higher, as buyers can shop around easily, and compare even geographically disparate shops more readily. In addition, the internet tends to be increasingly price focussed (e.g. price comparison sites).

Power of buyers: Higher. They can easily switch suppliers with minimal research. Travel is no longer necessary.

Power of suppliers: Probably lower as the retailer can research and switch suppliers easily.

On balance, the internet dramatically increased competitive pressure for the retailer. Naturally, it also presents increased opportunities for faster and more dramatic expansion.
Answers to Questions

3.1

The estimated cash flow in Year 5 is S$200,000. It is assumed that cash flows will increase each year from Year 6 in perpetuity at the same rate as the expected rate of inflation, 2.5%.

The estimated terminal value of the business at the end of Year 5 is:

\[
\frac{S$200,000(1.025)}{(0.12 - 0.025)} = S$1,217,895
\]

This valuation is based on an assumption of end-of-year cash flows. If we assume mid-year cash flows, the terminal value becomes:

\[
S$1,217,895 \times (1.12)^{0.5} = S$2,283,701.
\]

This valuation is likely to be rounded to a whole number, given the inexactness of the cash flow estimates – possibly to S$2.25 million or S$2.3 million.

3.2

Free cash flow is defined here as EBIT less tax, plus tax-allowable depreciation minus replacement capital expenditure.

Free cash flows and valuation of Green Company’s equity and debt based on free cash flows:

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
<td>$000</td>
</tr>
<tr>
<td>Earnings before interest and tax</td>
<td>1,893</td>
<td>1,969</td>
<td>2,047</td>
<td>2,129</td>
</tr>
<tr>
<td>Tax at 30%</td>
<td>(568)</td>
<td>(591)</td>
<td>(614)</td>
<td>(639)</td>
</tr>
<tr>
<td>Add back tax-allowable depreciation</td>
<td>728</td>
<td>757</td>
<td>787</td>
<td>819</td>
</tr>
<tr>
<td>Less replacement capital spending</td>
<td>(822)</td>
<td>(854)</td>
<td>(889)</td>
<td>(924)</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>1,231</td>
<td>1,281</td>
<td>1,331</td>
<td>1,385</td>
</tr>
<tr>
<td>Discount factor at 10% (year end)</td>
<td>0.909</td>
<td>0.826</td>
<td>0.751</td>
<td>0.683</td>
</tr>
<tr>
<td>Present value (in $000)</td>
<td>1,119</td>
<td>1,058</td>
<td>1,000</td>
<td>946</td>
</tr>
</tbody>
</table>

End-of-year 4 value of free cash flows from Year 5 onwards (in $000) = 1,385/0.10 = S$13,850

Present value of Year 5 onward cash flows (Year 0 value, in $000) = 13,850 \times 0.683 = S$9,460.

Total valuation of Green Company’s equity and debt capital, using the free cash flow method and assuming that cash flows occur at the end of each year, is \((1,119 + 1,058 + 1,000 + 946 + 9,460) = S$13,583,000\).

If it is assumed that all cash flows occur mid-way through each year, the valuation would be:

\[
S$13,583,000 \times (1.10)^{0.5} = S$14,245,971, \text{ rounded to S$14,246,000}.
\]

The workings are shown more fully in the table below, using the free cash flows and terminal value already calculated.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>Discount factor at 10% (mid-year)</th>
<th>PV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S$000</td>
<td></td>
<td>S$000</td>
</tr>
<tr>
<td>1</td>
<td>1,231</td>
<td>((1/1.10)^{0.5} = 0.95346)</td>
<td>1,174</td>
</tr>
<tr>
<td>2</td>
<td>1,281</td>
<td>((1/1.10)^{0.5} = 0.86678)</td>
<td>1,110</td>
</tr>
<tr>
<td>3</td>
<td>1,331</td>
<td>((1/1.10)^{0.5} = 0.78799)</td>
<td>1,049</td>
</tr>
<tr>
<td>4</td>
<td>1,385</td>
<td>((1/1.10)^{0.5} = 0.71635)</td>
<td>992</td>
</tr>
<tr>
<td>4 (Terminal value)</td>
<td>13,850</td>
<td>((1/1.10)^{0.5} = 0.71635)</td>
<td>9,921</td>
</tr>
<tr>
<td>Total valuation</td>
<td></td>
<td></td>
<td>14,246</td>
</tr>
</tbody>
</table>
3.3

(a) **Earnings.** Average earnings over the last five years have been $67,200, and over the last four years $71,500. There might appear to be some growth prospects, but estimates of future earnings are uncertain.

A low estimate of earnings in 20X5 would be, perhaps, $71,500.

A high estimate of earnings might be $75,000 or more. This solution will use the most recent earnings figure of $75,000 as the high estimate.

(b) **P/E ratio.** A P/E ratio of 15 (Company A P/E) would be much too high for Small Company, because the growth of earnings for Small Company is not as certain, and Small Company is also an unquoted company.

On the other hand, Small's expectations of earnings are probably better than those of Company B. A suitable P/E ratio might be based on the industry's average, 10; but since Small Company is an unquoted company and therefore more risky, a lower P/E ratio might be more appropriate: perhaps 60% to 70% of 10 = 6 or 7, or conceivably even as low as 50% of 10 = 5.

The valuation of Small Company's shares might therefore range between:

- High P/E ratio and high earnings: \( 7 \times \$75,000 = \$525,000 \), and
- Low P/E ratio and low earnings: \( 5 \times \$71,500 = \$357,500 \).

3.4

A suitable P/E ratio should be based on the P/E ratios of comparable quoted companies. It makes sense to exclude 'outliers' – P/E ratios that are abnormally high or low, because these will distort the P/E ratio selected.

Either the mean value or the median value P/E ratio could be used, excluding outliers. In this example there is not much difference between the mean and the median values, but the mean value is probably a better measure, since it takes more P/E values into consideration in the calculation.

So the recommendation might be to select a basic P/E ratio of 16.2, but to adjust this downwards to allow for the fact that Little is a private company. Perhaps 75% of 16.2 – about 12.2 – might be taken as starting point for negotiations with the board of directors and owners of Little.
When companies make new investments, they need finance to pay for them. Cash-rich companies may have sufficient cash to pay for a new investment from existing resources, but in many cases a company needs to raise new funding externally, from the capital market or from banks or other finance providers.

This chapter reviews briefly the various sources of finance available to companies. It then goes on to consider the cost of the various sources of financing and which source or sources might be the most appropriate for any company raising new capital.

<table>
<thead>
<tr>
<th>Topic list</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The financial markets</td>
</tr>
<tr>
<td>2 Sources of finance: equity finance</td>
</tr>
<tr>
<td>3 Debt finance</td>
</tr>
<tr>
<td>4 Lease finance</td>
</tr>
<tr>
<td>5 The cost of capital: cost of equity</td>
</tr>
<tr>
<td>6 Cost of debt capital</td>
</tr>
<tr>
<td>7 Weighted average cost of capital (WACC)</td>
</tr>
<tr>
<td>8 Other sources of finance</td>
</tr>
</tbody>
</table>
Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of Financing on Investment Decisions</td>
<td></td>
</tr>
<tr>
<td>Compare the various sources of financing available to an organisation, including</td>
<td></td>
</tr>
<tr>
<td>bank financing, financial instruments and bond, equity and treasury markets</td>
<td>3</td>
</tr>
<tr>
<td>Assess the impact of interest rate changes on a company's debt exposure.</td>
<td>2</td>
</tr>
<tr>
<td>Assess the impact of a company's credit quality on its debt financing options.</td>
<td>2</td>
</tr>
<tr>
<td>Assess the appropriateness and cost of the various traditional sources of financing (eg debt and equity) available to an organisation</td>
<td>3</td>
</tr>
<tr>
<td>Assess the appropriateness and cost of the various non-traditional sources of financing available to an organisation, including Islamic financing, crowd funding, venture capital, and business angels</td>
<td>2</td>
</tr>
</tbody>
</table>

ESSENTIAL READING

Singapore Venture Capital & Private Equity Association (SVCA): http://svca.org.sg
Funding initiatives for private companies:
www.nusentrepreneurshipcentre.sg
For information about Singapore government securities, visit
www.sgs.gov.sg

1 The financial markets

SECTION INTRODUCTION

This section describes the function of the financial markets in bringing borrowers and lenders, and buyers and sellers, together. It provides an introduction to their role in providing the various sources of finance that are available to organisations.

1.1 Overview of the financial markets

Financial markets are the markets where individuals and organisations with surplus funds lend funds to other individuals and organisations that want to borrow. This function is shown diagrammatically below.
Those who have saved and are lending funds, the ‘lender savers’, are on the left, and those who must borrow funds to finance their spending, the ‘borrower spenders’, are on the right. The principal lender-savers are households, as well as overseas institutions and their governments. The most important borrower-spenders are corporations and governments, although individuals also borrow to finance the acquisition of durable goods or houses. The arrows show that funds flow from lender-savers to borrower-spenders via two routes.

The first route is the direct finance route at the bottom of the diagram, when borrowers borrow funds directly from lenders in financial markets by selling them securities (also called financial instruments), which are claims on the borrowers’ future income or assets.

Securities are assets for the buyer but liabilities for the seller. For example, if Singapore Airlines needs to borrow funds to pay for a new aircraft, it might borrow the funds from a saver by selling the saver a bond, a debt security that promises to make payments periodically for a specified period of time.

The channelling of funds from savers to spenders is a crucial function for the economy because the people who save are not necessarily the same people who have profitable investment opportunities available to them.

Financial markets can be classified in several ways. We will look at the main classifications below in turn.

- Capital and money markets
- Primary and secondary markets
- Exchange-traded and over the counter markets

1.2 The money markets

Money markets are markets for:

- Trading short-term financial instruments
- Short-term lending and borrowing, usually for up to one year

The money markets are operated by the banks and other financial institutions. Although the money markets largely involve borrowing and lending by banks, some large companies, as well as governments, are involved in money market operations.

There is more on detail on specific money market instruments at the end of this section.

1.3 The capital markets

Capital markets are markets for trading in long-term finance, in the form of long-term financial instruments such as equities and corporate bonds. In Singapore, almost 800 companies are listed on its stock market, the Singapore Exchange (SGX).
Firms obtain long-term or medium-term capital in one of the following ways.

(a) They may raise **share capital**. Most new issues of share capital are in the form of ordinary share capital. Firms that issue ordinary share capital are inviting investors to take an **equity stake** in the business, or to increase their existing equity stake.

(b) They may raise **debt capital**. Long-term debt capital might be raised in the form of loan notes, corporate bonds, loan notes or convertible bonds.

1.4 Primary and secondary markets

The financial markets serve two main purposes.

(a) As **primary markets** they enable organisations to **raise new finance**, by issuing new shares or new bonds.

(b) As **secondary markets** they enable existing investors to buy and **sell existing investments**, should they wish to do so. The marketability of securities is a very important feature of the capital markets, because investors are more willing to buy stocks and shares if they know that they could sell them easily, should they wish to.

1.5 Exchange-traded instruments and over the counter markets

Secondary markets for financial securities can be organised on **exchanges**, where buyers and sellers of securities buy and sell securities in one location, the exchange.

Alternatively, secondary markets can operate as **over the counter (OTC)** markets, where transactions do not involve buying and selling through an exchange, but customers **negotiate individual transactions**, usually with a financial intermediary such as a bank.

Securities that are issued in an over the counter market can be negotiable or non-negotiable.

- **Negotiable** securities can be resold from one investor to another. (For example, bearer corporate bonds, or banker's guarantees are negotiable securities).

- **Non-negotiable** securities cannot be resold. For example, Singapore Savings Bonds are non-negotiable, because investors cannot transfer ownership of their Savings Bonds to another person.

1.6 Institutional investors

**Institutional investors** are institutions which have large amounts of funds which they want to invest, and they will invest in stocks and shares or any other assets which offer satisfactory returns and security or lend money to companies directly. The institutional investors are the biggest investors in the stock markets.

Major institutional investors include **pension funds, insurance companies, investment trusts, unit trusts** and **venture capital organisations**. Of these, pension funds and insurance companies have the largest amounts of funds to invest.

1.7 Capital market participants

The various participants in the capital markets are summarised in the diagram below.
1.8 Money market instruments

The table below shows some examples of money market instruments.

<table>
<thead>
<tr>
<th>Interest-bearing instruments</th>
<th>Discount instruments</th>
<th>Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Market Deposits</td>
<td>Treasury Bill (T-bill)</td>
<td>Forwards and Futures</td>
</tr>
<tr>
<td>Certificate of Deposit (CD)</td>
<td>Banker’s Guarantee (BG)</td>
<td>Options</td>
</tr>
<tr>
<td>Repurchase Agreement (Repo)</td>
<td>Commercial Paper (CP)</td>
<td>Swaps</td>
</tr>
</tbody>
</table>

**Interest-bearing instruments** pay interest. The investor receives face value plus interest at maturity.

**Discount instruments** do not pay interest. They are issued and traded at a **discount to the face value** and they are redeemed at their par value at maturity. The discount is equivalent to interest and is the difference between the issue price of the instrument and the redemption price at maturity. For example, if a bill is issued at a price of 98.50, it is issued at a discount of 1.50 and redeemed at maturity at a price of 100.00. The discount of 1.50 represents interest on the investment of 98.50.

**Derivatives** allow the buyer and seller to agree today to buy or sell an asset at some time in the future at an agreed fixed price.

**Money market deposits**

Money market deposits are **very short-term loans** between banks and depositors. These deposits can either be **fixed deposits**, where the rate of interest and maturity dates are agreed at the time of the transaction, or **call deposits** where the interest is variable and the deposit can be terminated if notice is given.

**Certificates of deposit**

A certificate of deposit (CD) is a certificate of receipt for funds deposited at a bank (or other financial institution) for a specified term and paying interest at a specified rate. Certificates of deposit can be either **negotiable** or **non-negotiable**. The holder of a **negotiable CD** has two options: to hold it until maturity, receiving the interest and the principal, or to sell it before maturity at the market price.

**Repurchase agreement**

A repurchase agreement (‘repo’) is an agreement between two parties, under which one party agrees to sell a financial instrument to the other on an agreed date for an agreed price, and simultaneously agrees to buy back the instrument from the party at a later date for an agreed higher price.
A repurchase agreement is in effect a loan secured by a marketable financial instrument, usually a treasury bill or a bond. The typical term is up to 180 days but is often much shorter. It is an attractive instrument because it can accommodate a wide spectrum of short-term maturities. A repo involves two sets of transactions.

- First on the start date, the dealer sells the security for cash.
- On maturity, the dealer will repay the cash with interest and take back the security.

**Treasury bills**

Treasury bills are debt instruments issued by the Government with maturities ranging from one month to one year. Most are issued with a maturity of 91 days. As one of the few money market instruments that are affordable for individual investors, they are very popular.

They are a very safe form of investment and as such they do not pay high rates of interest. They are issued at a price that is less than their par value; when they mature, the government pays the holder the full value. The effective rate of interest is the difference between the purchase price of the security and the receipt when it matures.

**Banker's guarantee**

Banker's guarantees are issued by firms to finance commercial transactions, such as imports or the purchase of goods.

The name 'banker's guarantee' derives from the fact that the bank has guaranteed the payment to the holder of the guarantee; that is, the bank has accepted responsibility for the payment. Banks guarantee the payment by the company for a fee.

**Commercial paper**

Commercial paper (CP) is short-term unsecured corporate debt with maturity up to 270 days. The typical term of this debt is 30 or 60 days. Commercial paper can only be issued by large organisations with good credit ratings, normally to fund short-term expenditure.

**Futures, forwards and options**

From their origins in the agricultural world, futures and options have become available on a wide range of other assets, from commodities, such as metals and crude oil, to financial products, such as currencies, bonds and equities. To understand futures and options properly requires some application, but at heart they are really quite simple. They are products which allow you to fix today the price at which assets may be bought or sold at a future date. Futures and options are sometimes called derivatives, as their price is derived from an underlying asset.

**Futures**

A future is an agreement to buy or sell a standard quantity of a specified asset on a fixed future date at a price agreed today. As they are standardised, they are exchange traded.
Forwards

A forward is an agreement over the counter between two parties to make or take delivery of an asset for an agreed price at a future date. In principal, the nature of the transaction is very similar to a futures contract, but because this is an 'over the counter' transaction all terms of the contract can be tailored individually to meet the buyer's and seller's needs.

Options

An option is a contract that confers the right, but not the obligation, to buy or sell an asset at a given price (exercise price or strike price) on or before a given date. Options are entered into at a cost, called the premium.

The right to buy is known as a call option.

The right to sell is known as a put option.

Swaps

Swaps involve two parties agreeing to exchange interest payments. In a simple interest rate swap two parties agree to exchange payments of 'interest' on a notional amount of principal at regular intervals over the term of the swap. The rate of 'interest' payable by each party has different characteristics.

The most common arrangement is for one party to pay a fixed rate of interest and the other to pay a variable rate.

SECTION SUMMARY

Financial markets are the markets where individuals and organisations with surplus funds lend funds to other individuals and organisations that want to borrow: capital markets are markets for medium-term and long-term capital, while the money markets are for short-term capital. A stock market acts as a primary market for raising finance, and as a secondary market for the trading of existing securities, which are tradable financial instruments. They can take the form of equity (such as shares), debt (such as bonds and loan notes) or derivatives. Secondary markets may be organised on exchanges or may consist of over the counter (OTC) transactions. Money market instruments are traded over the counter between institutional investors. They include interest-bearing instruments, discount instruments and derivatives such as futures, forwards or options.

2 Sources of finance: equity finance

SECTION INTRODUCTION

When a company needs to finance new investment in capital expenditure, it should do so with long-term or medium-term capital. Most long-term finance is in the form of equity or debt, although lease finance may also be used. This section deals with equity and when it might be the most appropriate method of raising new long-term finance.
2.1 Financing for long-term investment

A basic ‘rule’ is that long-term investment by a company should be financed by long-term capital. The reason for this is that if an investment is financed by short-term capital, such as a short-term bank loan or a short-dated bond, the capital must be repaid before the investment has provided sufficient returns to repay the borrowed money. The company would have to raise new capital to repay the maturing short-term debt; and this is risky, because it may be difficult to borrow the money except at a higher cost (higher interest rate, less favourable terms).

Long-term investments should therefore normally be financed either by equity or long-term debt, although other options might be lease finance or, conceivably, issuing new preference shares.

2.2 Sources of new equity finance

Equity finance represents ownership in a company. It comes from either of two sources:

(a) Retained earnings, or
(b) A new issue of shares.

Retained earnings are earnings (profit) that are not paid out to shareholders as dividends. It adds to equity capital, but it does not provide a source of finance for new investments unless it is retained in the form of additional cash. Some profitable companies do accumulate large quantities of cash, which can be used to pay for major new investments. They are said to be ‘cash rich’.

In normal circumstances, however, it is inadvisable for non-financial companies to hold large quantities of cash for too long. This is because shareholders (equity investors) expect a return on their investment which is higher than the return that can be obtained from cash savings and investments. So a company may have large amounts of cash for a short time, but it should be looking for suitable capital investment projects or acquisitions to spend the money. Otherwise there is no reason for holding the cash, and it would make more sense to give it to the shareholders in the form of higher dividends or share buy-backs.

New share issues are the other main source of equity finance. Listed companies with share option schemes issue new shares regularly, but in relatively small quantities. Occasionally a company may issue additional shares in much larger quantities in the following ways.

(a) As part of an Initial Public Offering (IPO) when the company is brought to the stock market for the first time. Raising new finance in an IPO can only happen when a company first obtains a listing on a stock market.

(b) In a rights issue of new shares. Companies whose shares are already listed and traded on a stock market can make a rights issue of new shares to raise more cash.

(c) Another way companies which are already listed can raise more cash is through a private placement. A private placement involves selling new shares to a relatively small number of select investors, for example, major banks or pension funds.

(d) To finance the acquisition of another company or business: the new shares may be issued in exchange for shares in the target company that is acquired. Issuing shares is a valid and commonly-used method of financing an acquisition, but it does not provide a source of new cash for other investments.

These methods of raising new equity are available to public companies whose shares are traded on a stock market (‘quoted companies’), but they are not usually available to private companies, although a private company may raise finance via a rights issue.

2.3 Rights issues

A rights issue is a new issue of shares where existing shareholders are given the right to subscribe for a quantity of new shares in proportion to their existing shareholding. For example, in a 1 for 3 rights issue, existing shareholders are given the right to subscribe for one new share for every three shares that they already hold. The issue price for the new shares is less than the current market price of the shares on the stock market.
Shareholders who do not want to buy the new shares are able to sell their rights to other investors (depending on the terms of the rights issue), giving the other investors the right to subscribe for the new shares at the rights issue price.

Companies listed on the Singapore Exchange must comply with the listing rules in relation to rights issues (Part V of the Listing Rules).

**Example**

ABC Ltd, a quoted company, announces a 1 for 4 rights issue at a price of S$6 per share. The current share price at the time of the announcement is S$8.50. The new shares are therefore being offered at a discount of S$2.50 to the current market price.

For a time after the announcement of the offer, until a short time before the new shares are issued, the shares in ABC Ltd continue to be traded on the stock market, and investors buy and sell their shares in the company with the right to subscribe for the new shares still attached. The shares are traded ‘cum rights’ or with their rights attached.

Shortly before the new shares are issued, the shares are no longer traded with the rights attached. Anyone buying shares in ABC Ltd after this time buys them without the rights (‘ex rights’). The right to subscribe for the new shares is retained by the seller of the shares. Once shares become ‘ex rights’, the rights can also be traded as a separate counter. (The stock market will typically set up a separate counter ‘ABC Rights’ to allow shareholders to buy or sell their rights.)

When the shares start to be traded ex rights instead of cum rights, the market price of the shares will fall. After the rights issue, the shares in ABC Ltd will also probably remain below the S$8.50 price when the rights issue was announced. An effect of the rights issue is to reduce the share price when the shares become ‘ex rights’ and after the new shares are issued.

**2.3.1 Theoretical Ex-Rights Price**

The actual share price, after they become ex rights and the share issue has occurred, depends on unpredictable price movements due to demand and supply in the stock market. However it is possible to calculate what the price will be in theory when the shares become ex rights and after the new shares are issued. This is called the Theoretical Ex-Rights Price (TER).

The TER is based on the assumption that the new share issue will leave the shareholders no better off and no worse off than before the rights issue. The share price will fall, but the losses on existing shares from the share price fall are offset by gains from the low subscription price for the new shares.

**Example**

In the previous example, ABC Ltd announced a 1 for 4 rights issue at an issue price of S$6 when the market price for the shares was S$8.50. Suppose that there are 20 million shares in issue. The TER at this moment in time is calculated as follows:

<table>
<thead>
<tr>
<th>Number of shares</th>
<th>S$</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 existing shares have a current value of (× $8.50)</td>
<td>34.00</td>
</tr>
<tr>
<td>1 new share will be issued at a price of</td>
<td>6.00</td>
</tr>
<tr>
<td>5 shares after the rights issue have a theoretical value of</td>
<td>40.00</td>
</tr>
</tbody>
</table>

TER = S$40/5 = S$8.

Existing shareholders who subscribe for the new shares can expect to lose S$0.50 per share on their existing shares or S$2 for every 4 shares they hold. However they will make a gain of S$2(S$8 – S$6) on the new share they buy. This leaves them no better and no worse off.
Shareholders who do not subscribe for the new shares can expect to lose S$0.50 per share on the shares they hold, but they can sell their rights. In theory the market value of the rights is S$2 per new share or S$0.50 per existing share.

It is called the TER because the actual share price after the rights issue is likely to be above or below S$8, but the theoretical price is probably a reasonably good guide to what the new share price will be.

ABC Ltd has 20 million shares before the rights issue and so will issue 5,000,000 new shares at a price of S$6 each, to raise S$30 million (less issue costs) in cash.

2.3.2 Potential problems with rights issues

When a quoted company makes a rights issue, there is a risk that existing shareholders and other investors will not want to subscribe for the new shares. As a protection against this risk, the company may arrange for the rights issue to be underwritten. In return for an underwriting fee, a number of financial institutions and investors agree to buy the shares in the rights issue that no other investors want. Underwriting the issue guarantees that the company will issue all the new shares and sell them at the rights issue price. In the short term, the company is protected and raises the new equity capital that it wants, although it incurs the cost of the underwriting fees.

In the longer run, the company may have problems.

(a) The share price after the rights issue will fall below its theoretical level, as the underwriters try to sell off the shares they were required to buy.

(b) Investors may be hostile to any future attempt by the company to raise capital in the financial markets.

As the company should want its rights issue to be successful, an important factor for a quoted company to consider when considering a rights issue is therefore the current condition of the stock market in general, and shareholder attitudes to the company itself. These factors will influence the attitude of investors to the rights issue.

In general, shareholders are often not keen on rights issues, because a right issue forces a shareholder to either put more funds into the company or else face a dilution of their holding (if they don’t subscribe for the rights).

Question 4.1

Hope Ltd wants to raise a large amount of capital and is considering a rights issue. It currently has 100 million shares in issue, with a market price of S$3. It has been advised that it may be possible to make a 3 for 5 rights issue at a price of S$2.20 per share, but that it would be appropriate to arrange for the issue to be underwritten.

Required

What would be the TER if this rights issue is announced? How much capital would the company raise? What is the risk for the company with such a share issue?

2.4 Private limited companies and raising new equity

Private limited companies are unable to offer shares to the general public. If they want to raise new equity capital, the most likely sources are:

- Retained earnings
- Issuing new shares privately, for purchase by existing shareholders or perhaps by other members of the owners’ family. (Private companies can potentially also make rights issues, applying the same principles as in a public company, although shares in private companies are not traded on a stock market.)
The amount of new capital that may be raised in this way is limited, because the number of shareholders is limited, and there is a limit to the new capital that existing shareholders and other family members or friends are able or willing to provide.

However, new funds may also available from private sources through angel investors and, more recently, through crowdfunding. (Crowdfunding involves raising funds from a large number of private individuals, using the Internet.)

2.4.1 Private equity and venture capital

Venture capital is risk capital. Some financial institutions (venture capital institutions) have a fund for investing in young and unquoted entrepreneurial companies. They specialise in buying a stake in entrepreneurial companies that they think will be successful. Their investment usually takes the form of, or includes, subscribing for new shares.

Venture capital firms hope to make a profit from their investment when the company eventually gets a stock market listing for its shares or, more commonly, when the company is sold to a bigger competitor. (Venture capital is a form of private equity. Private equity is a term used for firms that specialise in investing in the equity of companies. Venture capital involves investment in new and small private companies. Private equity may involve investing in much larger private companies, or even acquiring a public company and converting it back to private company status.)

Private companies are able to discuss opportunities for equity financing with venture capitalists. In Singapore, the Singapore Venture Capital & Private Equity Association (SVCA: http://svca.org.sg) seeks to promote venture capital and has grown in size since it was first established in 1992.

When the owners or directors of a private company look for help from a venture capital firm, they must understand that:

- The venture capitalist will want equity shares in return for an investment in the company.
- The company must be able to persuade the venture capitalist that the company will be successful: venture capitalists will not invest their money in companies where the risk is too high.
- Venture capitalists expect a high return on their successful investments (to allow for the risk and compensate for their investments that are not successful).
- The venture capitalist may also want the company to appoint its representative to the board of directors.

2.4.2 Government funding options

The government provides a number of funding options for start-up companies, and small established companies wanting to grow their businesses. Many of the available schemes relate to supporting innovative business ideas. Government support takes the form of:

- Loans for the purchase of fixed assets
- Grants for innovative or productivity-related projects
- Tax incentives
- Equity financing, in the form of co-financing. The government may provide one half of the equity funding for a business (such as a start-up) if a private ‘business angel’ investor provides the rest of the finance.
- Non-financial assistance such as business advice and training

‘Enterprise Singapore’ is an example of government support for businesses, and it champions the growth of businesses of all sizes – from start-ups and small companies, to mid-sized and large companies.

SEEDS Capital and Startup SG Equity are important financing schemes, administered by Enterprise Singapore, to support start-ups and to provide entrepreneurs with a launch pad for their business. SEEDS Capital co-invests with independent investors in start-ups which are perceived to be commercially viable and innovative, and which have strong intellectual content.
SEEDS Capital also manages co-investment funds administered through Startup SG Equity, which aims to encourage private sector investment for start-ups across a range of sectors (including health and biomedical sciences, and advanced manufacturing and engineering) through government investment co-investment.

2.4.3 Raising new equity capital in an IPO

A private company may become a public company and seek a listing on the Singapore Exchange in order to raise new equity capital. By issuing new shares in an Initial Public Offering (IPO), the current shareholders of the company will have a smaller percentage holding in the company's equity. The current shareholders must accept some loss of ownership in this way; however they may restrict the size of the IPO so that they retain a minimum stake in the company's equity.

The following example should illustrate this point.

**Example**

A private company is 100% owned by its founder and the founder's close family members. The family has agreed that the company should convert itself to public company status and obtain a listing on the SGX in order to raise new equity capital to finance a planned expansion of the business.

There are currently 1,000,000 shares in issue. The family has decided that if new shares are issued in an IPO, they want to retain 70% ownership of the company.

A conservative valuation of the company's equity, based on the present value of future cash flows if the company remains private, is S$21,000,000.

**Required**

Ignoring the costs of the IPO and issuing new shares, what is the maximum amount that the company is likely to raise in an IPO if the family retains a 70% shareholding in the company?

**Solution**

It is assumed that the value of shares in the IPO will be the same as the current estimated value of the private company shares, which is S$21 per share. (There may be a premium on this valuation, due to the fact that the company will be a public company and will have a stock market listing, but this possibility is not considered in the calculations here.)

After the IPO, the value of the family's shares should therefore remain at S$21,000,000. The family wants this to be worth at least 70% of the company's total equity value. If it is exactly 70% of the total equity value, the total equity value of the company after the IPO will be:

S$21 million/0.70 = S$30,000,000.

The maximum amount of new capital that the company could raise in the IPO is therefore S($30,000,000 – $21,000,000) = S$9,000,000.

2.5 The appropriateness of a new share issue to raise capital

When a company wants to raise new capital externally, several factors will affect whether an issue of equity shares would be the appropriate method of finance.

(a) For quoted companies, the current state of the stock market is usually important. Investor appetite for new share issues can vary over time, depending on factors such as the economic outlook and prospects for corporate profits.

(b) Quoted companies must also consider whether they would have the support of their own shareholders for a rights issue (or even the support of investors for a smaller ‘placing’ of new shares). Similarly, companies need to consider whether they have the support of their banks and other financial institutions for a new issue.
(c) Private limited companies need to consider how much new finance they need, and whether this amount of money can be raised from existing shareholders or from other private sources. Venture capital may be an option for a successful company, but the existing owners will lose some control over the company to the venture capitalist.

(d) A company must also consider the returns that shareholders will expect on their investment, in the form of annual dividends and share price growth. It may also need to consider the balance between equity and debt in its capital structure. A choice must be made between new equity capital and borrowing more. The cost of capital and capital structure are considered in more detail later in this chapter.

(e) New share issues may finance the acquisition (takeover) of a target company. Mergers and acquisitions are dealt with in Chapter 7.

SECTION SUMMARY

If a company wants to make new capital investments, it must decide on the method of financing them. A cash-rich company may be able to finance new investment from existing cash resources (retained earnings). A company may raise new equity finance externally, from existing shareholders or new investors. A quoted company can make a rights issue, but the ability of a private company to raise new equity finance externally is usually limited.

The appropriateness of making a new equity issues depends on factors such as the state of the stock market and the attitude of shareholders and other investors. When there is a choice between raising new capital as equity and obtaining more debt, other factors to consider are the relative cost of equity and debt finance, and the capital structure of the company.

3 Debt finance

SECTION INTRODUCTION

Many companies raise new capital through medium-term or long-term borrowing. Short-term borrowing is also common, but this is inappropriate as a source of finance for capital investment by companies. Bank borrowing is an important source of borrowing for many companies, both public and private. Alternatively companies may borrow by issuing bonds. There are many different types of ‘conventional’ bond where bond investors are rewarded with interest: these are described in this section. Companies may also issue Islamic bonds or sukuk. Sukuk are issued in Singapore, although Malaysia is currently a bigger capital market for Islamic finance.

3.1 Bank loans

Banks are an important source of both short-term and longer-term finance for business. This chapter is concerned with finance for capital investment, and so considers only longer-term finance for the acquisition of capital assets such as machinery and property.

(a) Medium-term and longer-term bank loans are usually provided at a variable (‘floating’) rate of interest. The interest rate is set at a margin above the bank’s base rate or prime rate, or at a margin above a benchmark money market rate.

(b) Bank loans are often secured. The borrower must provide collateral that the bank can use as an alternative source of repayment in the event that the borrower defaults. A company wishing to borrow
Bank lending can take several forms. Repayment loans may provide for the gradual repayment of the loan capital with interest over the term of the loan, so that the amount of the outstanding debt falls over time and the loan is fully repaid at maturity: this is an amortising loan (also called a principal and interest loan). Alternatively a borrower may be able to negotiate a bullet repayment loan (also called an interest-only loan), where only interest is paid during the term of the loan and the full amount of the loan principal is repaid in a single 'bullet' repayment at maturity.

A company wishing to obtain finance for a continuing cycle of asset replacements (such as equipment replacement) over time may negotiate a revolving credit facility, where the bank allows borrowing up to a specified limit throughout the term of the facility and the borrower can also repay amounts borrowed throughout the period. The borrower pays interest on the amount borrowed at any time and a smaller commitment fee for the amount of the facility that is not currently borrowed. (Note: A bank overdraft facility is another type of revolving credit facility, but overdrafts should be used for short-term cash requirements, not for financing longer-term investments.)

Most bank loans are bilateral loans, negotiated between the borrower and an individual bank. A company wishing to borrow a large amount of capital may be able to obtain a syndicated loan through an arranging bank. In a syndicated loan a number of different banks, possibly from different countries, each agrees to provide a portion of the total loan. One bank acts as administrator for the syndicate, collecting the loan contributions from each of the banks for lending to the corporate borrower and arranging for the distribution of interest and capital repayments from the borrower. Syndicated loans may be appropriate where the amount borrowed is very large and individual banks are unwilling to accept the exposure to credit risk from lending the full amount in a bilateral loan. They are an alternative to a bond issue for companies wishing to borrow a large amount for several years.

3.2 Bonds

For some quoted companies, a bond issue is an alternative to bank loans as a method of obtaining debt capital. Bonds are issued to investors. They have a nominal value, which is the face value of the debt. In a bond issue investors subscribe for a quantity of the bonds. Interest is paid either annually or every six months at a stated 'coupon' rate.

For example, a company may issue $100 million of bonds with a fixed coupon of 6%. Interest may be payable every six months on specified dates each year. With conventional bonds, investors receive interest only until the maturity date for the bonds, when they are redeemed in full by the bond issuer, usually at their face value (‘at par’).

Many countries have a domestic bond market for government bonds ('sovereign bonds') and a separate domestic market for corporate bonds. Only large quoted companies may be able to issue bonds, because investors are reluctant to accept the credit risk of investing in bonds of smaller quoted companies. (Information about Singapore Government Securities can be found at www.sgs.gov.sg)

Interest rates on corporate bonds are higher than the interest rate on domestic sovereign bonds, because the credit risk is higher.

Bonds may be listed and accepted for trading on a domestic stock market. However the primary issue of bonds is usually arranged through a ‘book-building’ exercise by a group of banks that sell the bonds to investors. The primary issue of bonds provides the debt capital for the bond issuer. After they have been issued, bonds are traded in a secondary market, organised by banks that specialise in bond trading. The secondary markets for bonds are mainly ‘over the counter’, with deals arranged through an electronic bond trading platform or telephone. The reason that most bonds are traded over the counter rather than through a stock exchange is the large number of
different bond issues and the large average size of secondary market transactions in bonds. Transactions in bonds are usually much larger than secondary market transactions in equities.

(d) **Bond prices** are quoted in relation to par value. For example, a price of 102.45 means that the current market price of the bonds is $102.45 for bonds with a par value of $100. Similarly a price of 98.64 means that the price is $98.64 for bonds with a par value of $100. The prices of bonds in the secondary bond markets vary with changes in interest rates and the market yield on bonds.

(e) Some bonds may be called ‘debentures’. A debenture is a written acknowledgement of a debt by a company, usually setting out the provisions for the payment of interest and repayment of the debt capital at maturity. A debenture may be secured on some assets of the company. The Companies Act (Chapter 50) in fact defines debentures as instruments that include ‘debenture stock, bonds, notes and any other securities of a corporation whether constituting a charge on the assets of the corporation’. You can therefore treat the terms ‘bonds’ and ‘debentures’ as if they have the same meaning.

(f) In addition to domestic bond markets, there is also an international bond market. Very large companies may be able to issue bonds to international investors. The issue and sale of international bonds is organised through large international investment banks. They are usually denominated in a freely-convertible and widely-traded currency, such as US dollars and the size of an international bond issue will be large – normally much larger than in domestic corporate bond markets. The Eurobond market is an example of an international bond market.

(g) Bonds issued in a domestic bond market may be either **secured or unsecured**. International bonds are unsecured.

(h) **Interest paid on bonds is an allowable expense for tax purposes**, unlike dividends on shares. For example, if a company issues $100 million of 5% bonds and the rate of tax on company profits is 17%, the annual interest payments on the bonds will be $5,000,000. The company can claim the interest payments against tax, so the annual tax charge will be reduced by $850,000 and the after-tax cost of the interest will be $4,150,000.

### 3.3 Types of bond

There are different types of bond. The ability of companies to raise capital by issuing each type of bond depends on the current demand from bond investors. At some times, it may be difficult for any company to issue bonds of any type, because of a lack of investor demand. At other times, there may be a demand for fixed rate bonds but not for other types of bond. At other times, there may be interest from bond investors for other types of bond, such as floating rate bonds, redeemable bonds and perpetual bonds.

(a) Conventional **fixed rate bonds** pay a fixed rate of interest and are redeemed in full, usually at par, at their maturity date.

(b) **Floating rate bonds** pay interest at a variable rate. The rate may be adjusted at ‘fixing dates’ every six months or every year, in line with changes in a benchmark rate of interest. Floating rate bonds therefore always pay the current market rate of interest (or something close to the current market rate).

(c) Most bonds are redeemable at maturity. However, a company may be able to issue **perpetual bonds**. These have no maturity date and are not redeemed (except at the decision of the company that has issued the bonds).

(d) **Zero coupon bonds** pay no interest at all, and are redeemed at par value at maturity. Because they pay no interest, they are issued at a large discount to their face value. For example, zero coupon bonds redeemable at par (100.00) after five years may be issued to investors at a price of $80.00.

(e) Deep discount bonds are bonds which are issued at a large discount to their par value, but are redeemable at par, and carry a low coupon rate of interest. The return to investors in the bonds is reflected in the size of the discount.
(f) **Convertible bonds** are bonds that are convertible at a future date, at the option of the bondholder, into new shares of the company. For example, convertible bonds may be convertible at a specified future date into 225 equity shares of the company (bond issuer) for every $1,000 face value of the bonds. Until the conversion date, interest is paid at a fixed rate. If the bondholders decide not to convert their bonds into shares, the bonds are redeemed at their maturity date, usually at par value.

(g) **Callable bonds** are bonds that may be redeemed early, before their scheduled maturity date, at the option of the bond issuer.

(h) **Sukuk** are Sharia-compliant Islamic bonds. These bonds do not pay any interest, which is contrary to Sharia law. Instead, sukuk are issued in a way that provides for the payment of profit to the bondholders.

### 3.4 Bonds: market values and bond yields

The issue price of new bonds, and the secondary market price of bonds in issue, are determined by:

- Future interest payments on the bond and the repayment of principal at maturity, and
- The rate of return or yield required by investors in the bonds.

The **market value of a bond is the present value of future payments of interest and principal, discounted at the market yield on the bond.**

#### Example

A company is issuing a new fixed rate bond with a 6% coupon. The bond is redeemable at par after five years and interest is payable annually. What will be the issue price for the bonds (per $100 nominal value) if the yield required is:

(a) 7%?
(b) 5%?

#### Solution

The market price (issue price) of the bonds will be the present value of the future cash payments to investors, discounted at the bond yield. So for bonds with a par value of $100:

If investors require a yield of 7%

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow $</th>
<th>Discount factor at 7%</th>
<th>PV $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1 – 5</td>
<td>6.00</td>
<td>4.100</td>
</tr>
<tr>
<td>Capital repayment</td>
<td>5</td>
<td>100.00</td>
<td>0.713</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>95.90</td>
</tr>
</tbody>
</table>

If investors require a yield of 5%

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow $</th>
<th>Discount factor at 5%</th>
<th>PV $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1 – 5</td>
<td>6.00</td>
<td>4.329</td>
</tr>
<tr>
<td>Capital repayment</td>
<td>5</td>
<td>100.00</td>
<td>0.784</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>104.37</td>
</tr>
</tbody>
</table>
2.4.1 The relationship between bond prices and yields

This example demonstrates that:

(a) When the coupon rate of interest is lower than the bond yield required by investors, the market price of the bonds will be less than par. When the coupon rate of interest is higher than the bond yield required by investors, the market price of the bonds will be above par.

(b) A change in the yield required by bond investors will affect the secondary market price of the bonds. If the required yield on bonds goes up, the market price of the bonds will fall. If the required yield on bonds falls, the market price of the bonds will rise.

Bond investors are therefore concerned when interest rates (and so bond yields) are expected to rise. This is because the market value of the bonds they currently hold will fall, and they will incur a loss on their investment.

Companies may therefore find it difficult to issue fixed-rate bonds when rates are expected to rise in the foreseeable future.

3.5 The impact of changes in interest rates on a company's debt exposure

When a company has large amounts of debt capital, changes in interest rates will affect its exposure to debt.

(a) If market rates of interest rise, the company will have to pay more interest on its variable-rate bank loans and floating rate bonds. Interest payments on existing fixed rate bonds will be unaffected, but the market price of bonds will fall. The company's cost of debt will be higher.

(b) If market rates of interest fall, the company will have to pay less interest on its variable rate bank loans and floating rate bonds. Bond yields will fall and the market price of existing bonds will rise. The company's cost of debt will be lower, and companies wishing to raise new capital may therefore prefer to borrow than to raise capital by issuing new shares.

3.6 Credit ratings

Issues of corporate bonds often have a credit rating. A company that issues bonds pays a credit rating agency to provide an independent assessment of the credit risk in the bonds. A credit rating is provided when the bonds are issued, and the rating is then kept under review and adjusted when the perceived credit risk changes. Bond investors use credit ratings to decide whether to invest in the bonds and, if so, what yield they want to receive on their investment.

Corporate bonds are not required to have a credit rating, but it may be difficult to issue bonds successfully without one.

The most well-known credit rating agencies internationally are Moody's and Standard & Poor's (S&P). Both divide their credit ratings into two categories.

- Investment grade ratings, where the risk of default is considered very low or reasonably low and
- Speculative grade ratings, where the risk of default is significant (and for some ratings default may already have occurred). Speculative-grade bonds are sometimes called 'junk bonds'.

Bond investors may have a strict investment policy of investing only in investment grade bonds.
The ratings used by Moody's and Standard & Poor's for bonds are summarised below.

<table>
<thead>
<tr>
<th>Standard &amp; Poor's (S&amp;P) Investment grade</th>
<th>Moody's Investment grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>Aaa</td>
</tr>
<tr>
<td>Best-quality credit</td>
<td>Best-quality credit</td>
</tr>
<tr>
<td>AA</td>
<td>Aa</td>
</tr>
<tr>
<td>Very good credit quality, but not as good as AAA</td>
<td>Very good credit quality, but not as good as Aaa</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Good credit quality</td>
<td>Good credit quality</td>
</tr>
<tr>
<td>BBB</td>
<td>Baa</td>
</tr>
<tr>
<td>Medium grade credit quality</td>
<td>Medium grade credit quality</td>
</tr>
<tr>
<td>Speculative grade</td>
<td>Speculative grade</td>
</tr>
<tr>
<td>BB</td>
<td>Ba</td>
</tr>
<tr>
<td>Major uncertainties about credit quality</td>
<td>Bonds with speculative (higher credit risk) characteristics</td>
</tr>
<tr>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Not yet in default, but high risk</td>
<td>Lacking the attributes of a desirable investment</td>
</tr>
<tr>
<td>CCC</td>
<td>Caa</td>
</tr>
<tr>
<td>Even higher risk of default. Needs improvement in circumstances and conditions to avoid default</td>
<td>Poor credit quality. May be in default already</td>
</tr>
<tr>
<td>CC</td>
<td>Ca</td>
</tr>
<tr>
<td>Very speculative. Often in default</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Lowest credit rating</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Already in default</td>
<td></td>
</tr>
</tbody>
</table>

Notes

1. S&P credit ratings are modified by + or -. For example, a rating of AA+ is better than a rating of AA, and a rating of AA is better than a rating of AA-. The credit rating below AA- is A+. The lowest investment grade rating is BBB- and the highest speculative grade rating is BB+. Moody's have a similar system.

2. Credit ratings apply to specific issues of bonds, but they are often also associated with the companies themselves. Companies may therefore be referred to as a 'triple-A rated' company, for example, to indicate that they have the highest credit quality (and presumably the lowest credit risk).

The yield required by bond investors depends on the credit rating for the bonds and yields must be higher for bonds with a lower credit rating. When the credit rating for a bond (and so the perceived credit status of the company) is reduced, yields required by the bondholders will rise and

(a) The market price of the bonds will fall, and
(b) The company will have to pay higher rates of interest on any new borrowing in the future.

### 3.7 The appropriateness of raising capital by borrowing

Many companies borrow to raise capital for investment. The appropriateness of debt capital will depend on several factors:

(a) The **current state of the market**, and whether banks are willing to lend to companies and whether investors are prepared to invest in bonds at the current time.

(b) The **cost of borrowing** (although tax relief is available on interest payments). Higher yields are required by lenders when the borrower is a higher credit risk.
(c) The **size and credit status of the company**. The bond markets are usually not accessible to smaller or higher-risk quoted companies. The international bond markets are only accessible to large quoted companies.

(d) **Unquoted companies** may be able to borrow from a bank, especially if the loan is secured. Issuing bonds will be difficult for these companies, unless they know a private source of finance (such as a family member) which may be willing to lend money to the company.

(e) **If security is required** for a loan or a bond issue, a company must consider whether it is able to (and willing to) provide suitable collateral.

(f) **The current level of debt (financial gearing) of the company**. Lenders or bond investors may be unwilling to lend to companies that already have a high level of debt, except at a very high interest rate. However, capital structure and the cost of borrowing are considered in more detail later.

A company should also consider how it intends to repay any long-term borrowing.

(a) It may be able to repay the loan principal (and interest) from the profits and cash flows of the business; however, this may be difficult because of the many different demands for cash within the business.

(b) A company may plan to repay existing debt at maturity by borrowing again, and using the new debt to repay the maturing debt. This is a fairly common method of redeeming bonds at maturity.

### 3.8 Preference shares as a source of new capital

Preference shares are classified as either equity or debt, depending on their characteristics. They are shares on which dividends are paid, usually at a fixed annual dividend rate.

(a) Some preference shares are irredeemable, which means that they are permanent capital of the company, more like equity capital than debt capital.

(b) Some preference shares are redeemable at a specified maturity date, possibly at their par value. Because they are redeemable, these shares are more like debt capital than equity.

Dividends on preference shares ('preference dividends') are not an allowable cost for tax purposes. This usually means that for companies they are less attractive than debt capital as a source of new long-term finance.

### SECTION SUMMARY

The two main sources of long-term capital for companies are equity and debt capital. Retained earnings is an important source of new capital, but may not provide sufficient cash to pay for new capital investments by the company. Quoted companies may therefore make a rights issue of new shares when they need to raise a large amount of cash for investment.

Debt capital is an alternative source of long-term funding, in the form of bank loans or bond issues. There are different types of bonds. The most common are conventional fixed rate bonds, and there is a direct connection between market prices of fixed rate bonds and yields required by investors in the bonds. Market rates of interest may change, and the credit rating for specific bond issues may change. Such changes affect the market value of the bonds and the cost of the debt.
4 Lease finance

SECTION INTRODUCTION
Lease finance is another possible source of finance for investment in capital assets. Lease finance has characteristics of debt capital, and the appropriateness of lease finance is often considered in terms of whether it is cheaper to lease equipment or whether it would be better to borrow in order to purchase the equipment.

4.1 The nature of finance leases
Equipment leasing is an agreement between a lessor and a lessee. With finance leases, the lessor is often a bank or finance company. The lessor purchases the equipment from the manufacturer, but the equipment is delivered to and used by the lessee for a fixed period of time (the primary lease period).

(a) The lessee makes regular payments ('lease rental payments') to the lessor throughout the lease period.
(b) The lessor retains legal ownership of the asset.
(c) The lease period covers a significant part of the expected useful economic life of the assets.
(d) The lessee is responsible for maintenance of the asset and for the cost of maintenance.

Although the lessor is the legal owner of the asset, the lessee uses the asset as if it is the owner. The range of assets in finance lease agreements is wide, and includes office equipment, plant and machinery, motor vehicles, aircraft, ships and buildings.

At the end of the primary lease period, several different arrangements are possible. The lessee may continue to lease the asset, but at a substantially lower lease rental charge. Alternatively the lessee may purchase the assets and continue to use it. Another possibility is that the lessor will arrange for the sale of the asset.

For the purpose of financing capital investment, however, the key decision about the appropriateness of lease finance is whether it would be better to obtain the asset under a finance lease arrangement or whether it would be better to borrow in order to purchase the asset.

4.2 Potential advantages of leasing to the lessee
A company may prefer a finance lease arrangement to purchasing an asset for several reasons.

(a) Both leasing and borrowing money to buy an asset are forms of debt finance, but leasing may be cheaper than borrowing to purchase (depending on the company's situation).
(b) A reason why leasing may be cheaper is that the lessor retains the legal ownership of the asset throughout the primary lease period. This reduces the credit risk for the lessor, who may therefore be willing to provide the lease finance at a lower cost than a conventional unsecured bank loan.
(c) A company may have difficulty obtaining bank finance to acquire a large asset (such as a ship or aeroplane), whereas there may be well-established arrangements that a company can use for leasing.
(d) In some circumstances, leasing may provide a tax advantage over purchasing, but this depends on the profitability and tax position of the company.
4.3 Lease or buy decisions

A decision whether to purchase an asset or obtain it under a finance lease arrangement should be made after an initial decision has been made to acquire the asset. The decision is about the method of financing, not whether to acquire the asset or not.

The relevant cash flows for cost of borrowing to buy the asset and the relevant cash flows for the cost of leasing should both be discounted to present value at the company's after-tax cost of borrowing. The preferred financing option should be the one with the lower PV of total costs.

(a) The relevant cash flows for the cost of borrowing to buy the asset are:
   - The purchase cost of the asset in Year 0
   - The resale value or trade-in value of the asset at the end of its useful life (which is assumed to be the same as the primary lease period)
   - The tax savings from tax allowances on the purchase cost of the asset

The cash flows do not include the cost of interest payments on the loan to buy the asset because these are dealt with in the cost of capital that is used for discounting.

(b) The relevant cash flows for the cost of leasing the asset are:
   - The lease rental payments
   - Tax relief on the lease rental payments (assuming that the company earns a taxable profit)

---

Example

Dante Pte Ltd has decided to invest in a new machine which will have a five-year life and, if purchased, it would have a resale value of S$30,000 at the end of this time. The machine could be purchased now at a cost of S$200,000 or it can be leased for five years with lease rental payments of S$40,000 per year, payable at the end of each year.

If purchased, the Dante would be able to claim a tax depreciation allowance of 100% in Year 1. If leased, Dante would be able to claim the full annual lease rental cost against tax.

The rate of tax on profits is 17%. Tax is payable with one year's delay. If purchased, the asset would be financed with a bank loan and the after-tax cost of borrowing would be 5%.

Should the asset be leased or purchased?

Solution

The cash flows associated with the purchase of the asset, and the present value of these costs, would be as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow item</th>
<th>Cash flow</th>
<th>Discount factor at 5%</th>
<th>PV</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Equipment cost</td>
<td>(200,000)</td>
<td>1.000</td>
<td>(200,000)</td>
</tr>
<tr>
<td>2</td>
<td>Tax savings from tax depreciation allowance (17% × S$200,000)</td>
<td>34,000</td>
<td>0.907</td>
<td>30,838</td>
</tr>
<tr>
<td>5</td>
<td>Resale value</td>
<td>30,000</td>
<td>0.784</td>
<td>23,520</td>
</tr>
<tr>
<td>6</td>
<td>Tax on revenue from resale</td>
<td>(5,100)</td>
<td>0.746</td>
<td>(3,805)</td>
</tr>
</tbody>
</table>

Net PV of cost of buying (149,447)
If leased

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow item</th>
<th>Cash flow S$</th>
<th>Discount factor at 5%</th>
<th>PV S$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5</td>
<td>Lease rentals</td>
<td>(40,000)</td>
<td>4.329</td>
<td>(173,160)</td>
</tr>
<tr>
<td>2 – 6</td>
<td>Tax relief on lease rentals (see workings)</td>
<td>6,800</td>
<td>4.124</td>
<td>28,043</td>
</tr>
</tbody>
</table>

Net PV of cost of leasing (145,117)

The cost of leasing in this example is slightly less than the cost of buying. If cost is the only consideration in the decision, the asset should be obtained with a lease.

Workings

Tax relief = 17% \times 40,000 = 6,800

| Cumulative PV factor at 5%, Years 1 – 6 | 5.076 |
| PV factor at 5% Year 1 | 0.952 |
| Cumulative PV factor at 5%, Years 2 – 6 | 4.124 |

### 4.3.1 Tax relief and the lease or buy decision

In the previous example, the tax rules were simple. Buying the asset attracted 100% tax depreciation allowance in the first year, and the full lease rental was an allowable cost for tax purposes. The tax rules in a lease or buy decision may be more complex, and you should read carefully the information in any examination question on this topic.

**Example**

Tosca Pte Ltd has decided to invest in a new machine which will have a five-year life and, if purchased, it would have a resale value of S$30,000 at the end of this time. The machine could be purchased now at a cost of S$200,000 or it can be leased for five years with lease rental payments of S$48,000 per year, payable at the end of each year.

If purchased, the asset company would be able to claim tax depreciation allowances of 25% each year on a reducing balance basis.

If the asset is leased, the annual straight-line depreciation charge on the asset would be allowable for tax purposes. In addition, the interest element in the lease rental would also be tax deductible.

The rate of tax on profits is 17%. Tax is payable in the same year as the profit to which the tax payment relates. If purchased, the asset would be financed with a bank loan and the after-tax cost of borrowing would be 5%.

Should the asset be leased or purchased?

**Solution**

Workings

Tax depreciation allowances, if the asset is purchased

<table>
<thead>
<tr>
<th>Year</th>
<th>Value at beginning of year S$</th>
<th>25% tax depreciation allowance S$</th>
<th>Reduction in tax at 17% S$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>200,000</td>
<td>50,000</td>
<td>8,500</td>
</tr>
<tr>
<td>2</td>
<td>150,000</td>
<td>37,500</td>
<td>6,375</td>
</tr>
<tr>
<td>3</td>
<td>112,500</td>
<td>28,125</td>
<td>4,781</td>
</tr>
<tr>
<td>4</td>
<td>84,375</td>
<td>21,094</td>
<td>3,586</td>
</tr>
<tr>
<td>5</td>
<td>(84,375 – 21,094 – 30,000)</td>
<td>Balance 33,281</td>
<td>5,658</td>
</tr>
</tbody>
</table>
Annual depreciation tax allowance if asset is leased = \(17\% \times S$(200,000 - 30,000)/5 = S$5,780\)

Interest cost in lease payments

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>PV factor at 6%</th>
<th>PV at 6%</th>
<th>PV factor at 7%</th>
<th>PV at 7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Purchase cost</td>
<td>(200,000)</td>
<td>1.000</td>
<td>(200,000)</td>
<td>1.000</td>
</tr>
<tr>
<td>1 – 5</td>
<td>Lease rentals</td>
<td>48,000</td>
<td>4.212</td>
<td>202,176</td>
<td>4.100</td>
</tr>
<tr>
<td></td>
<td>NPV</td>
<td></td>
<td></td>
<td>2,176</td>
<td></td>
</tr>
</tbody>
</table>

Internal Rate of Return (IRR) = \(6\% + \left[\frac{2,176}{(2,176 + 3,200)}\right] \times (7 - 6)\% = 6.4\%\)

Interest on annual lease payments

<table>
<thead>
<tr>
<th>Year</th>
<th>Opening balance</th>
<th>Interest at 6.4%</th>
<th>End of year debt before lease payment</th>
<th>Lease payment</th>
<th>End of year debt after lease payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>200,000</td>
<td>12,800</td>
<td>212,800</td>
<td>(48,000)</td>
<td>164,800</td>
</tr>
<tr>
<td>2</td>
<td>164,800</td>
<td>10,547</td>
<td>175,347</td>
<td>(48,000)</td>
<td>127,347</td>
</tr>
<tr>
<td>3</td>
<td>127,347</td>
<td>8,150</td>
<td>135,497</td>
<td>(48,000)</td>
<td>87,497</td>
</tr>
<tr>
<td>4</td>
<td>87,497</td>
<td>5,600</td>
<td>93,097</td>
<td>(48,000)</td>
<td>45,097</td>
</tr>
<tr>
<td>5</td>
<td>45,097</td>
<td>2,886</td>
<td>47,983</td>
<td>(48,000)</td>
<td>(17)</td>
</tr>
</tbody>
</table>

The negative balance of 17 at the end of year 5 is due to rounding differences.

**PV calculations**

**Buy asset**

<table>
<thead>
<tr>
<th>Year</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
</tr>
<tr>
<td>Purchase cost</td>
<td>(200,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax allowances</td>
<td>8,500</td>
<td>6,375</td>
<td>4,781</td>
<td>3,586</td>
<td>5,658</td>
<td></td>
</tr>
<tr>
<td>Resale value</td>
<td>30,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cash flow</td>
<td>(200,000)</td>
<td>8,500</td>
<td>6,375</td>
<td>4,781</td>
<td>3,586</td>
<td>35,658</td>
</tr>
<tr>
<td>Discount factor at 5%</td>
<td>1.000</td>
<td>0.952</td>
<td>0.907</td>
<td>0.864</td>
<td>0.823</td>
<td>0.784</td>
</tr>
<tr>
<td>Present value</td>
<td>(200,000)</td>
<td>8,092</td>
<td>5,782</td>
<td>4,131</td>
<td>2,951</td>
<td>27,956</td>
</tr>
</tbody>
</table>

Net PV of cost, purchase = \(S$(151,088)\)

**Lease the asset**

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
<td>S$</td>
</tr>
<tr>
<td>Lease payments</td>
<td>(48,000)</td>
<td>(48,000)</td>
<td>(48,000)</td>
<td>(48,000)</td>
<td>(48,000)</td>
</tr>
<tr>
<td>Tax relief on depreciation</td>
<td>5,780</td>
<td>5,780</td>
<td>5,780</td>
<td>5,780</td>
<td>5,780</td>
</tr>
<tr>
<td>Tax relief at 17% on interest in lease payments</td>
<td>2,176</td>
<td>1,793</td>
<td>1,386</td>
<td>952</td>
<td>491</td>
</tr>
<tr>
<td>Net cash flow</td>
<td>(40,044)</td>
<td>(40,427)</td>
<td>(40,834)</td>
<td>(41,268)</td>
<td>(41,729)</td>
</tr>
<tr>
<td>Discount factor at 5%</td>
<td>0.952</td>
<td>0.907</td>
<td>0.864</td>
<td>0.823</td>
<td>0.784</td>
</tr>
<tr>
<td>Present value</td>
<td>(38,122)</td>
<td>(36,667)</td>
<td>(35,281)</td>
<td>(33,964)</td>
<td>(32,716)</td>
</tr>
</tbody>
</table>

NPV of cost, lease = \(S$(176,750)\)

In this example, the option to purchase the asset, financed by a loan, is significantly cheaper.
SECTION SUMMARY

Leasing is a form of debt finance. Leasing can be used to finance the acquisition of an asset, as an alternative to purchasing it. The operational cash flows should be the same for leasing and buying, and the only difference between the two financing options should be the financing and tax benefits. The choice between leasing and buying can be evaluated using DCF to identify the cheaper financing option.

5 The cost of capital: cost of equity

SECTION INTRODUCTION

Each method of capital financing, equity and debt, has a cost. The cost of each source of long-term finance can be calculated. One method of estimating the cost of equity is the dividend valuation model. A method that is probably more reliable is the Capital Asset Pricing Model (CAPM).

5.1 The cost of capital: introduction

The capital of a company, both equity and debt, has a cost. The cost of capital is an annualised average return that investors in equity or debt capital require from their investment.

(a) The cost of equity is a measure of the returns that shareholders expect from their shareholding, in the form of dividends (income stream) or share price growth (capital appreciation).

(b) The cost of debt is a measure of the yield that providers of debt require on their loan or investment.

Companies need to be able to produce after-tax profits that are sufficient to provide lenders, bondholders and shareholders with the returns they expect. Expected returns are higher when business risk or financial risk is higher.

(a) The returns required by providers of capital are higher when the business risk is greater. Business risk is the risk that returns from business operations may not be as high as expected. Some businesses are more risky than others. Some types of investment project are also more risky than others; and the expected return should be higher to compensate for the greater risk of disappointing returns, or even loss on investment.

(b) The returns required by investors are also higher when the financial risk is greater. Financial risk increases with the amount of debt in a company’s capital structure. Shareholders do not receive a dividend unless the company can pay all its interest costs and make a profit after interest and tax. At high levels of debt, there is greater risk of volatility in after-tax profits and so greater risk of volatility in dividend payments. There may even be a risk that the company will not make sufficient operating profits to cover the interest costs on its debts; this would create insolvency risk.

5.1.1 Cost of capital: an opportunity cost

A cost of capital is the return that a provider or investor of capital expects to receive on the investment. For shareholders, it is the expected future return in the form of dividends and share price growth (and eventually the capital gain on disposal of the shares). For providers of debt capital, returns are in the form of future interest earnings.

For a company making a business investment, the future returns are the expected future cash flows from the investment, which need to be sufficiently high to provide returns on the equity and debt capital that has been invested.
The cost of capital is therefore related to expectations of future investment returns, and not to historical returns.

In addition, the cost of capital can be seen as an opportunity cost. For example the cost of equity in a particular company relates to the future returns that shareholders expect to receive, and which are sufficient to prevent the shareholders from selling the shares and investing somewhere else. Similarly the cost of debt capital is a yield on the investment that is sufficient to prevent the providers of debt investing their money somewhere else.

The cost of equity for quoted companies and the cost of debt are therefore a general market view of the opportunity cost of the company's capital.

5.1.2 Calculating a cost of capital

There are different methods of estimating a cost of capital for the purpose of investment appraisal and business valuations. Most methods involve:

- Calculating an appropriate cost of equity for the investment, and having done this,
- Calculating a weighted average cost of capital that allows for the mix of equity and debt capital in the financing of the investment.

Often the most difficult part of this process is to calculate a suitable cost for the equity capital.

5.1.3 Equity Risk Premium (ERP)

One approach to estimating the cost of equity capital is to recognise that the cost of equity will always be higher than the cost of risk-free debt, to allow for the higher investment risk with equity. The difference between the cost of equity and the risk-free cost of debt is called the Equity Risk Premium (ERP).

The size of the ERP differs between companies, and may consist of several elements, as follows:

<table>
<thead>
<tr>
<th></th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk-free cost of debt</td>
<td>A</td>
</tr>
<tr>
<td>+ General ERP for all companies; also called the market risk premium</td>
<td>B</td>
</tr>
<tr>
<td>+ Small company risk premium for small companies</td>
<td>C</td>
</tr>
<tr>
<td>+ Company-specific risk premium, such as industry risk, volatility of annual returns, financial gearing of the company and other company-specific factors</td>
<td>D</td>
</tr>
<tr>
<td>Cost of equity</td>
<td>A + B + C + D</td>
</tr>
</tbody>
</table>

In principle, it should be possible to estimate, from data about share transactions in the market, what a suitable premium for elements B, C and D might be, in order to estimate a cost of equity for a private company.

In practice, other methods of estimating a cost of equity are likely to be used. However, you should be aware of the concept of an ERP and its component elements; and you should also be aware that the cost of equity should always be higher than the cost of debt capital – even though a company's debt capital is not risk-free.

5.2 Cost of equity: dividend valuation model

The cost of equity can be estimated for quoted companies, using the current market value of the shares as the shareholders' investment. Private company shares do not have a market price, and the cost of equity in private companies cannot be measured except by using assumptions and judgement, and comparisons with the cost of equity in similar quoted companies.
Two methods of calculating the cost of equity for quoted companies are:

(a) The dividend valuation model, and
(b) The Capital Asset Pricing Model or CAPM.

The CAPM is more reliable and is based on statistical analysis of historical returns on equity. The dividend valuation model is less reliable, because it is based on assumptions about future dividend payments in perpetuity.

5.2.1 Dividend valuation model: no dividend growth in perpetuity

The simplest form of the dividend valuation model is based on the assumption that annual dividend payments in future years will remain at the same amount in perpetuity, and will not increase or fall.

With this assumption, the market value of the company's shares can be expressed by the formula:

\[ MV = \frac{d}{k_e} \]

Where

- \( MV \) is the current market price of the share. The share price sometimes includes the right to a dividend that has been declared and is payable in the near future. The market price of the shares is said to be 'cum dividend', which means 'with dividend'. If the share price is cum dividend, the dividend payment payable in the near future should be deducted and the 'ex dividend' or 'ex div' share price should be used in the formula.
- \( d \) is the annual dividend (the same every year).
- \( k_e \) is the cost of equity to the entity.

Re-arranging this formula, we get the cost of equity to the entity:

\[ k_e = \frac{d}{MV} \]

For a quoted company, we know the current year dividend (which it is assumed will be the annual dividend every year in future, in perpetuity) and we know the market price of the share. We can therefore calculate the cost of equity.

5.2.2 Dividend valuation model: assumption of constant rate of dividend growth in perpetuity

An alternative assumption with the dividend valuation model is that annual dividends will continue to rise every year in the future, at a constant percentage rate of annual growth. When we make this assumption, we can use the dividend growth model:

\[ MV = \frac{d_0 (1 + g)}{(k_e - g)} \]

Where

- \( d_0 \) is the annual dividend in the current year
- \( g \) is the annual future rate of annual dividend growth

Re-arranging this formula, we get:

\[ k_e = \left[ \frac{d_0 (1 + g)}{MV} \right] + g \]

**Example**

Luan Ltd is a quoted company whose current share price is S$6.00. The annual dividend in the year just ended was S$0.30 per share.
What is the cost of equity in Luan Ltd if it is assumed that:

(a) Annual dividends are a constant amount and will not increase in the future.
(b) Annual dividends will grow by 3% every year in perpetuity.

Solution

(a) Using the basic dividend valuation model and assuming no dividend growth:
\[ k_e = \frac{0.30}{6.00} = 0.05 \text{ or } 5\% \]

(b) Using the dividend growth model and assuming annual dividend growth of 3% in perpetuity:
\[ k_e = \left[ \frac{0.30(1.03)}{6.00} \right] + 0.03 = 0.0815 \text{ or } 8.15\% \]

This example should demonstrate that the assumption about the future rate of growth in dividends is a major assumption in the dividend growth model. If the assumed rate of dividend growth is, say, 6% rather than 3%, the cost of equity would be \[ \left[ \frac{0.30(1.06)}{6.00} \right] + 0.06 = 0.1130 \text{ or } 11.30\% \]

Forecasting a future rate of dividend growth is a matter of judgement, which cannot be based on sound evidence. This is the main reason why the dividend valuation model and dividend growth model are not reliable for measuring the cost of equity.

5.2.3 Limitations of the dividend valuation model

The dividend valuation model is underpinned by a number of assumptions that create limitations for its use, and should be borne in mind.

(a) It assumes that investors act rationally. The model fails to take into account the different expectations of shareholders, or how much they are motivated by a preference for dividends over future capital appreciation on their shares.

(b) It assumes that the current year's dividend \((D_0)\) does not vary significantly from the trend. If \(D_0\) is a one-off figure, it would be better to use an adjusted trend figure, calculated on the basis of the past few years' dividends.

(c) It assumes that the estimates of future dividends and prices used are reasonable. It may be difficult to make confident estimates. Dividend estimates may be made from historical trends that may not be a good guide for a future, or from uncertain forecasts about future earnings.

(d) Directors use dividends to signal the strength of the company's position, but companies that pay zero dividends do not have zero share values.

(e) In the model, dividends either show no growth or constant growth. The model assumes that the percentage of profits retained in the business and the return on those retained profits are constant values.

(f) Other influences on the share price are ignored.

5.3 Cost of equity: Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) is a different approach to measuring the cost of equity, which uses historical data about returns on shares and which incorporates risk in the measurement.
5.3.1 Unsystematic risk and systematic risk

A starting point for understanding the CAPM is the difference between unsystematic risk and systematic risk in investment. Investment risk is the risk that returns may be lower or higher than expected: the greater the risk, the greater the likely variations in actual return above or below the expected level.

Investors are able to reduce some of this risk by diversifying their investments, and investing in a wide-ranging portfolio of financial securities. By acquiring an investment portfolio which is a good representation of the stock market as a whole (‘the market’), investment risk is reduced for the following reasons.

(a) Some investments in the portfolio will perform better than expected and some will perform worse than expected.

(b) The investments that perform better than expected will hopefully ‘cancel out’ the investments that perform worse than expected, so that taking the investor’s portfolio as a whole, the average return will be equal to the average return for the stock market as a whole.

The only risk for an investor with a widely-diversified portfolio of investments is that the average returns for the stock market as a whole may be worse (or better) than expected. This risk cannot be eliminated through diversification. If the average market return rises or falls, the returns for a well-diversified investor will also rise or fall.

(a) Risks that can be eliminated through diversification are known as unsystematic risk.

(b) Risks that cannot be eliminated through diversification, because of the risk of variations in average market returns, are known as systematic risk.

Average market returns may vary unexpectedly up or down for various reasons, including changes in the economic and business environment. When the economy is growing, company profits and returns tend to increase and bond yields also rise. When an economy is slowing down or possibly in recession, average market returns on equities and bonds will fall.

Well-diversified investors should be primarily concerned with systematic risk, as prudent investing can help to eliminate most of the unsystematic risk. The CAPM is based on the assumption that the cost of equity should be measured in a way that allows for systematic risk, but which ignores unsystematic risk.

5.3.2 Equity market risk premium

Investors have different attitudes to investment risk (‘risk appetite’). Some investors try to select investments which they hope will provide higher-than-expected returns (for which the unsystematic risk is high).

(a) Investors who are risk-averse may want to avoid risk altogether. In the CAPM it is assumed that the sovereign risk associated with investing in government bonds is the closest proxy to a risk-free investment. The annual return on domestic government bonds is assumed to be a risk-free rate of return and an investor with a portfolio consisting entirely of these bonds has no investment risk. (This is not actually the case in practice, but it is considered sufficiently accurate to provide a basis for the CAPM.)

(b) An investor who has a portfolio of shares in just a small number of companies will be exposed to a large amount of unsystematic risk as well as systematic risk, and returns on this portfolio could be much higher or much lower than expected.

(c) If an investor’s portfolio is a good representation of the stock market as a whole (a balanced portfolio of all shares in the market, excluding risk-free investments), the investor will be exposed to systematic risk which is the average systematic risk for shares in the stock market as a whole. The investor will have no exposure to unsystematic risk and the primary concern should be with market returns on equity and systematic risk.
The average return on a market portfolio of equity investments should be higher than a risk-free return on a portfolio of risk-free government bonds. This is to compensate investors in a market portfolio for the higher risk (systematic risk) with their investments.

The difference between the average return on equity market investments and the risk-free rate of return over the same time period is known as the **equity market risk premium**.

### 5.3.3 Individual securities and systematic risk

Shares in individual companies usually have different systematic risk characteristics from the market average. When the average market return increases, the return on the shares of an individual company will probably increase too, but by a higher or lower percentage amount than the change in the average market return. For example, if the average market return increases by 1%, the returns on ABC Ltd may increase by 1.5% and the returns on the shares of DEF Ltd may rise by just 0.80%. (In some cases, when the average market return increases, the returns on the shares of a particular company may be expected to fall. Such cases are rare.)

Similarly if the average market return falls by 1%, the returns on the shares of individual companies may be expected to fall by more than 1% or less than 1%, depending on their systematic risk characteristics.

The systematic risk characteristics of individual company shares need to be separated from unsystematic risk on the shares, but this can be done by means of statistical analysis of returns on company shares and comparing changes in returns for individual shares with changes in market returns over the same period.

### 5.3.4 Beta factors

The Capital Asset Pricing Model (CAPM) is concerned mainly with how systematic risk is measured for individual securities, and how systematic risk affects the returns that investors require from individual securities, in the form of dividends and share price growth (or share price falls) in the case of companies and in terms of yield on corporate bonds. **Systematic risk is measured as a beta factor.**

The beta factor for a security or a portfolio of securities is a mathematical measure of the variability in their rate of return compared with the rate of return on securities in the market as a whole. For example, if the return on a share increases by 2% (excluding any variations due to unsystematic risk) when the average market returns increase by 1%, the beta factor of the share would be 2.0. If the average market returns fell by 1%, we would expect the return on shares with a beta factor of 2.0 to fall by 2%.

Similarly, if the rate of return on market securities as a whole increased by 1%, and the beta factor for shares in Company X is 1.25, we would expect the return on Company X shares to increase by 1.25%.

A beta factor can be measured for every financial security, shares or bonds that are traded on a stock market. Beta factors for individual securities are typically in the range 0.5 to 2.0 but they could be higher or lower.

<table>
<thead>
<tr>
<th>Beta factor</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ß = 1</strong></td>
<td>The stock market as a whole has a beta factor of 1. When the shares of an individual company have a beta factor of 1, their systematic risk is the same as the systematic risk for the market as a whole.</td>
</tr>
<tr>
<td><strong>ß &gt; 1</strong></td>
<td>When the shares of an individual company have a beta factor greater than 1, their systematic risk is higher than the systematic risk for the market as a whole. Ignoring unsystematic risk, the expected return on the shares will rise or fall by a greater percentage amount than the rise or fall in the average market return.</td>
</tr>
<tr>
<td><strong>ß &lt; 1</strong></td>
<td>When the shares of an individual company have a beta factor less than 1 (but greater than 0) their systematic risk is lower than the systematic risk for the market as a whole. Ignoring unsystematic risk, the expected return on the shares will rise or fall by a smaller percentage amount than the rise or fall in the average market return.</td>
</tr>
</tbody>
</table>
5.3.5 The CAPM formula

The CAPM can be used to calculate the expected return on any stock market investment, allowing for average market risk (systematic risk) but ignoring unsystematic risk.

The CAPM formula is:

\[ k_s = R_{rf} + \beta_s (R_{m} - R_{rf}) \]

Where

- \( k_s \) = cost of a security (share or corporate bond) to the company
- \( R_{rf} \) = the risk-free rate of return
- \( R_{m} \) = the average return on securities in the stock market as a whole
- \( R_{m} - R_{rf} \) = the market risk premium
- \( \beta_s \) = the beta factor for the security

The CAPM can therefore be used to calculate the expected return on a shares or bonds, ignoring unsystematic risk, and so is a method of calculating the cost of equity in any quoted company.

Example 1

Shares in Hoon Ltd have a beta factor of 0.85. The expected average stock market return is 8% the risk-free rate of return is 3%.

**Required**

(a) What is the current cost of equity in Hoon Ltd?

(b) What would be the cost of equity in Hoon Ltd if the average market return fell to 6%?

**Solution**

(a) \( k_e = 3\% + 0.85 \times (8 - 3)\% = 7.25\% \)

This is less than the average market return because the beta factor for the shares is less than 1.

(b) \( k_e = 3\% + 0.85 \times (6 - 3)\% = 5.55\% \)

The cost of equity falls when average market returns fall.

Example 2

The expected rate of return on shares in Fork Ltd is 8%: these shares have a beta factor of 1.2. The expected average market return is 7%.

**Required**

What is the expected return on shares in Spoon Ltd, which have a beta factor of 1.8?

**Solution**

Begin by calculating the risk-free rate of return (as a %).

\( k_e = R_{rf} + \beta_s (R_{m} - R_{rf}) \)

\[ \begin{align*}
\beta_s &= 1.2 \\
R_{m} - R_{rf} &= 8,4 - 8 = 0,4 \\
R_{rf} &= 2
\end{align*} \]

\( R_{rf} = 2 \)
Apply this to the CAPM to calculate the cost of equity in Spoon Ltd:

\[ k_e = 2 + 1.8 (7 - 2) \]
\[ = 11\% \]

5.3.6 Factors affecting a beta factor

The beta factor for a share (or corporate bond) depends mainly on two factors:

(a) The business risk in the company's business operations
(b) The financial risk in the company's capital structure

Companies with a high level of financial gearing and which operate in high-risk businesses will have a high beta factor.

You will come across two different types of beta factor.

(a) An Equity Beta, also called a geared beta: this is a beta factor that takes into consideration both the business risk and the financial risk in a company's capital structure. Beta factors for companies are generally shown as an Equity Beta value.

(b) An Asset Beta, also called an ungeared beta: this is a measure of what the beta factor of the company would be if the company is all-equity financed, so there is no financial risk.

The significance of the difference between an Equity Beta and an Asset Beta will be explained more fully in the next chapter.

5.3.7 Equity beta value and size premium

Something you may come across in an examination is a 'size premium' adjustment to a company's equity beta value. When a size premium is applied to an equity beta value, the value of a company's equity beta is:

\[ k_e = R_{RF} + \beta (R_m - R_{RF}) + \text{Size premium} \]

The size premium increases the value of the company's equity beta, and so increase the cost of equity capital in the company.

This premium is intended to allow for risk factors that are not taken into consideration by the basic CAPM.

You are not expected to know the technique for calculating a size premium adjustment to a beta value. However an examination question may provide you with information suggesting that such a premium should be added, by giving you the value/amount of this premium. If you are given such information, you should use it and add it to the beta value in order to calculate the cost of the company's equity.

5.3.8 Alpha values

Beta factors measure systematic risk. The actual return on a share or bond may be higher than the expected return derived from the CAPM. The difference between actual return and expected return based on the CAPM is known as the alpha value.

This reflects (mainly) unsystematic risk.

(a) Over a long period of time, the alpha value should be close to zero.
(b) The alpha value for a well-diversified portfolio of investments should be 0.
5.3.9 Assumptions in the CAPM

The CAPM is based on several simplifying assumptions. It is assumed that:

- Investors are risk-averse. This means that in return for accepting higher investment risk, they will expect a higher return.
- Investors are rational and will seek to hold a fully-diversified portfolio of securities.
- All investors have the same time horizon (the same expected holding period for their investments).
- All investors have the same expectations about variables in the model, such as expected rates of return.
- There are no transaction costs in buying or selling securities and no investment-related taxes.
- The rate of return obtained from lending money is the same as the rate of interest on borrowing money.
- The stock market has perfect liquidity (so that investors can buy or sell shares at any time).

5.3.10 Criticisms of the CAPM

In addition to a criticism that the CAPM is based on simplifying assumptions, there are other criticisms of the model.

- It is a single-period model, not a multi-period model for measuring returns.
- It assumes that the stock market is efficient, which may not be correct.

**Question 4.2**

Shares in Robber Ltd have a beta factor of 1.1. In the year just ended the average market return was 6% and the risk-free rate of return was 2.5%. Actual returns on shares in Robber Ltd were 6.5%.

Comment on the expected and actual return on Robber Ltd shares for the year.

**SECTION SUMMARY**

The cost of capital is the return expected by investors on their investment. A cost of capital can be calculated for equity and for debt capital, although calculating a cost of equity for private companies is largely a matter of guesswork and judgement.

The cost of equity can be calculated using a dividend valuation model or a dividend growth model, but these models depend on assumptions about future dividend growth rates (which may not be accurate or reliable).

The cost of equity can also be calculated using the Capital Asset Pricing Model (CAPM). This allows for the risk in the investment. The CAPM assumes that the expected return on the equity shares of an individual company relates to systematic risk only. Expected return can be calculated as the risk-free rate of return plus a premium equal to the market risk premium multiplied by the beta factor for the shares.
6 Cost of debt capital

SECTION INTRODUCTION
The cost of debt capital can also be calculated. A different cost may apply to each different item of debt, such as each separate bank loan or each separate bond issue. The method of calculating the cost of debt depends on whether interest on the debt is payable at a fixed or floating interest rate and whether the debt is redeemable or perpetual.

6.1 Introduction: cost of debt
The cost of debt is the yield on investment required by the lender or bondholder. The cost of debt is usually lower than the cost of equity, for two reasons:
(a) Debt finance offers more security to the investor than equity shares. Interest is paid out of pre-tax profits, whereas dividends are paid out of profits after tax, which means after payment of interest to the providers of debt capital.
(b) Tax relief on interest reduces the cost of debt relative to the cost of equity. For the purpose of analysing a company's cost of capital and capital structure, the after-tax cost of capital is more relevant than the before-tax cost of debt. This is because the cost of debt to a company is reduced by the tax relief on the debt interest.

6.2 Cost of floating rate debt
The interest on medium-term bank loans and floating rate bonds is at a variable rate, and it is appropriate to assume that the current rate of interest on the debt is the pre-tax cost of the debt. The market value of the loan or debt should always be equal to its par value.
For example, suppose that a bank lends S$10 million to a company at a variable rate of interest and the current rate of interest payable is 6%. If the rate of tax on company profits is 17%:
(a) The pre-tax cost of the loan is 6% (and the 'market value' of the loan is S$10 million)
(b) The after-tax cost of the debt is 6 (1 – 0.17)% = 4.98%

6.3 Cost of irredeemable (perpetual) debt
The pre-tax cost of irredeemable debt is:
\[ \frac{i}{MV} \]
Where
\[ i = \text{the annual interest payment on the debt, and} \]
\[ MV = \text{the current market value of the debt (excluding any interest payable in the near future and included in the bond's current market price. The market value should be 'ex interest'.)} \]
The after-tax cost of irredeemable debt is therefore:
\[ \frac{i}{MV} \times (1 - t) \]
where \( t \) is the tax rate.

Example
A company has issued perpetual bonds with a fixed coupon of 4.5%. The current market price of the bonds is 96.75. The rate of tax is 17%.
(a) The pre-tax cost of this debt is: \( \frac{4.5}{96.75} = 0.0465 \) or 4.65%.
(b) The after-tax cost of this debt is: \( \frac{4.5}{96.75} \times (1 - 0.17) = 0.0386 \) or 3.86%.
6.4 Cost of redeemable debt

The cost of redeemable debt should be calculated initially as a pre-tax cost. This cost is the current redemption yield on the bond for investors. The redemption yield takes into consideration both future interest payable on the bonds up to maturity and the repayment of the debt principal at maturity.

This cost or yield is calculated as the Internal Rate of Return (IRR) that equates the current market value of the debt with the PV of the future expected cash flows on the debt up to maturity. You should be familiar with the method of calculating an IRR. The following example illustrates it.

Example

A company has bonds in issue that pay interest annually at a fixed coupon rate of 4%. An annual interest payment has just been made. The bonds will mature in four years' time. The current market value of the bonds is 95.00.

Required

(a) Calculate the pre-tax cost of the redeemable debt.
(b) Calculate the after-tax cost of the redeemable debt if the rate of tax is 17%.

Solution

A rough estimate of the yield is the interest yield of 4/95 plus an average annual gain on the redemption value of (100 – 95)/4 years = (4.2 + 1.25) = 5.45%.

So begin by trying 6% as the IRR.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>PV factor at 6%</th>
<th>PV at 6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Current market price</td>
<td>(95.00)</td>
<td>1.000</td>
</tr>
<tr>
<td>1 – 4</td>
<td>Interest payments</td>
<td>4.00</td>
<td>3.465</td>
</tr>
<tr>
<td>4</td>
<td>Redemption of bond</td>
<td>100.00</td>
<td>0.792</td>
</tr>
<tr>
<td>NPV</td>
<td></td>
<td></td>
<td>(1.94)</td>
</tr>
</tbody>
</table>

The NPV is negative, which means that the yield is less than 6%. Try 5% next

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>PV factor at 5%</th>
<th>PV at 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Current market price</td>
<td>(95.00)</td>
<td>1.000</td>
</tr>
<tr>
<td>1 – 4</td>
<td>Interest payments</td>
<td>4.00</td>
<td>3.546</td>
</tr>
<tr>
<td>4</td>
<td>Redemption of bond</td>
<td>100.00</td>
<td>0.823</td>
</tr>
<tr>
<td>NPV</td>
<td></td>
<td></td>
<td>1.48</td>
</tr>
</tbody>
</table>

IRR = 5% + [1.48/(1.48 + 1.94)) × (6 - 5)% = 5% + 0.43%

IRR = 5.43%

The pre-tax cost of this bond is 5.43%.

The after-tax cost of the bond is 5.43% (1 - 0.17) = 4.51%.

The after-tax cost of redeemable debt is calculated by applying the factor (1 - t) even though most of the cash flow is the redemption value of the bond, and tax relief applies to interest payments only.

It is assumed that when the bond matures and is redeemed, it will be replaced by an identical bond, and tax relief will therefore continue to apply in the long term.
6.5 Cost of preference shares

The cost of preference shares is calculated in a similar way to the cost of debt, with the exception that there is no tax relief on preference dividends.

(a) The cost of irredeemable preference shares = \( d/MV \) (where \( d \) = the annual dividend per share and \( MV \) is the market value per share).

(b) The cost of redeemable preference shares is calculated in the same way as the pre-tax cost of redeemable bonds.

SECTION SUMMARY

The cost of debt is the yield that lenders expect to receive on their loan or that bondholders expect to receive on their bonds, adjusted to allow for tax relief on interest payments. For redeemable bonds, the cost of debt is calculated as the redemption yield (IRR that equates the current market price with PV of the future payments on the bond to maturity), adjusted by a factor \((1 – t)\) to allow for tax relief on debt interest.

7 Weighted average cost of capital (WACC)

SECTION INTRODUCTION

This section explains the nature of the weighted average cost of capital (WACC) and shows how it is calculated from the cost of the different sources of long-term capital. It also considers how the WACC is used in investment appraisal, and the limitations of its use for this purpose.

7.1 Investment returns and the WACC

A company needs to achieve returns from its business operations that are sufficient to provide the returns expected by the providers of equity and debt capital. On average, returns should therefore be at least equal to the weighted average cost of the company's equity capital and debt capital (and preference share capital, if any).

When a company is considering a new capital investment, it may base its decision on the net present value (NPV) of the investment. This is the net present value of the expected cash flows from the investment, discounted at a cost of capital.

In many cases, the cost of capital used in DCF appraisal is the company's weighted average cost of capital (WACC). However, use of the WACC is based on the assumptions that:

(a) The business risk in the new investment will be the same as the business risk in the company's existing business operations, and also

(b) There will be no change in the company's capital structure as a consequence of the investment; therefore there will be no change in financial risk.

This means that the current weighted average return required by the company's capital investors will also apply to new investments.
7.2 Calculating the WACC

The WACC is the average cost of the company's various sources of equity, debt and preference share capital, weighted according to the relative market value of each of the sources of capital. The after-tax cost of debt is used as the cost of debt.

When a company has just equity capital and one type of debt capital, a formula for the WACC is as follows.

\[
WACC = k_e \frac{V_E}{V_E + V_D} + k_d (1 - t) \frac{V_D}{V_E + V_D}
\]

Where

- \(k_e\) = the cost of equity
- \(k_d\) = the pre-tax cost of debt
- \(V_E\) = the current market value of the company's equity shares
- \(V_D\) = the current market value of the company's debt capital
- \(t\) = the rate of tax

**Example 1**

A company has 100 million shares in issue with a current market value of $3 per share. The cost of equity is 8.5%. The company also has $200 million of bonds in issue: these have a current market value of 102.50 and their pre-tax cost is 5.6%. The rate of tax on profits is 17%.

What is the weighted average cost of capital?

**Solution**

\[V_E = 100 \text{ million} \times 3 = 300 \text{ million} \]
\[V_D = 200 \text{ million} \times 102.5/100 = 205 \text{ million} \]
\[V_E + V_D = 505 \text{ million} \]
\[WACC = 8.5% \left( \frac{300 \text{ million}}{505 \text{ million}} \right) + 5.6% (1 - 0.17) \left( \frac{205 \text{ million}}{505 \text{ million}} \right) \]
\[WACC = 5.0495 + 1.8868 = 6.9363\% \]

This may be rounded to 7%, as a convenient whole number.

**Example 2**

A company has the following long-term capital

(a) 100 million equity shares. These have a current market value of $4.00 each. Their beta factor is 0.90. The market rate of return is 7.5% and the risk-free rate of return is 3.5%.

(b) 40 million 6.5% irredeemable preference shares of $1 each, with dividends payable annually. Their current market value is $1.25 per share.

(c) $150 million of 5.5% fixed rate bonds, with interest paid annually. These will mature in five years' time and will be redeemed at par. Their current market price is 99.20. The rate of tax on company profits is 20%.

What is the weighted average cost of capital?
Solution

Cost of equity = 3.5% + 0.9 (7.5% – 3.5%) = 7.1%
Cost of preference shares = 6.5/125 = 5.2%
Cost of debt:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow</th>
<th>Try 5%</th>
<th>Try 6%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>PV factor at 5%</td>
<td>PV at 5%</td>
</tr>
<tr>
<td>0</td>
<td>(99.20)</td>
<td>1.000</td>
<td>(99.20)</td>
</tr>
<tr>
<td>1 – 5</td>
<td>Interest</td>
<td>5.50</td>
<td>4.329</td>
</tr>
<tr>
<td>5</td>
<td>Redemption value</td>
<td>100.00</td>
<td>0.784</td>
</tr>
<tr>
<td>NPV</td>
<td></td>
<td></td>
<td>3.01</td>
</tr>
</tbody>
</table>

IRR = 5% + [3.01/(3.01 + 1.33)] × (6 – 5)% = 5.694%
After-tax cost of debt = 5.694% (1 – 0.20) = 4.555%, rounded to 4.56%.

WACC calculation

<table>
<thead>
<tr>
<th>Market value (MV)</th>
<th>Cost</th>
<th>MV × cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>400.0</td>
<td>7.10</td>
</tr>
<tr>
<td>Preference shares</td>
<td>50.0</td>
<td>5.20</td>
</tr>
<tr>
<td>Bonds</td>
<td>148.8</td>
<td>4.56</td>
</tr>
<tr>
<td></td>
<td>598.8</td>
<td></td>
</tr>
</tbody>
</table>

WACC = 3,778.53/598.8 = 6.31%
The company may therefore use 6.3% as its cost of capital for investment appraisal, although it may round this up to 7% or down to 6%.

7.3 Limitations in using the WACC for investment appraisal

As stated earlier, the WACC may be used as the cost of capital for investment appraisal by companies. However use of the WACC is based on the assumptions that new investments will not affect the business risk and will not affect the financial risk of the company.

If these assumptions are not valid, a different approach should be taken to calculating a cost of capital for investment appraisal purposes.

Question 4.3

A company has the following information in its statement of financial position.

<table>
<thead>
<tr>
<th></th>
<th>$000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity shares</td>
<td>2,500</td>
</tr>
<tr>
<td>12% unsecured bonds</td>
<td>1,000</td>
</tr>
</tbody>
</table>

There are 5,000,000 equity shares in issue, and they are currently quoted at $1.30 each. The bonds are trading at 72.00. An ordinary dividend of $0.15 has just been paid with an expected annual growth rate of 8% for the foreseeable future. Tax on profits is currently 20%.

Required
Calculate the weighted average cost of capital for this company.
SECTION SUMMARY
The weighted average cost of capital is the average cost of a company's various sources of capital, weighted to allow for the market value of each capital source. The WACC may be used by companies as the cost of capital for investment appraisal, but use of the WACC is based on assumptions that the new investments will not change the business risk or the financial risk of the company.

8 Other sources of finance

SECTION INTRODUCTION
Many of the equity and debt financing options described in this chapter may not be accessible to unlisted small and medium-sized companies. They need alternative sources of finance. Islamic finance is another source, one that is compliant with Sharia law. Islamic finance has gone through an exceptional growth period in recent years.

8.1 Alternative sources for small and medium sized companies
Unable to trade equity and debt instruments on public exchanges, smaller companies may also find it difficult to obtain bank loans if they lack assets to be offered as security. Alternative sources of financing for small and medium-sized companies include:

(a) **Business angel financing:** Business angels are wealthy individuals or groups of individuals who invest directly, mostly in the form of equity, in small businesses. They are prepared to take high risks in the hope of high returns.

(b) **Private equity and venture capital:** Venture capital is risk capital, normally provided by a venture capital firm or individual venture capitalist, in return for an equity, or equity and debt stake in the business. Venture capitalists seek to invest cash in return for shares in private companies with high growth potential. They seek a high return, which is often realised through a stock market listing.

Venture capitalists look to invest in companies with high growth potential. However, some companies may still be small or medium sized even though they are more established (for example, because they are niche businesses with less opportunities for growth). Such companies could still be attractive to private equity investors, although not to venture capitalists.

(c) **Government grants:** A grant is a sum of money given to an individual or business for a specific project or purpose. A grant usually covers only part of the total costs involved. Grants to help with business development are available from a variety of sources, such as the Government and some charitable organisations. These grants may be linked to business activity or a specific industry sector. Some grants are linked to specific geographical areas, eg those in need of economic regeneration funding. These funding initiatives include cash grants, government backed equity financing schemes, business incubator schemes, debt financing schemes, and tax incentives.

(d) **Crowdfunding:** This is the collective effort of a large network of individuals who each contribute a small amount of capital to finance a new business venture. It is usually carried out via the internet and involves the initiator, the people willing to support the project, and a platform to bring them together. Various platforms are now in existence, such as www.crowdcube.com and www.kickstarter.com. In Asia the concept of crowdfunding is still relatively new, but in Singapore there are several sites including ToGather.Asia, Crowdonomic, and Cliquefund.
8.2 Islamic financing

Islamic finance is finance that is compliant with Sharia law. Islamic finance has gone through an exceptional growth period in recent years. The number of fully Sharia compliant banks continues to increase worldwide and Sharia compliant financial products are not only offered by Islamic banks but also by conventional banks using specific distribution channels. The term ‘conventional’ is used to identify the financial institutions that have formed part of the financial infrastructure for a long time and are not specifically based on Islamic principles.

Islamic finance transactions are based on the concept of sharing risk and reward between the investor and the user of funds. The object of an Islamic finance undertaking is not simply the pursuit of profit, but that the economic benefits of the enterprise should extend to goals such as social welfare and full employment. Making profits by lending alone and the charging of interest is forbidden under Sharia law. The business of trading goods and investment in Sharia acceptable enterprises form the core of Islamic finance.

Following the ethics of Sharia is important for businesses. The ethical framework recognises that capital has a cost associated with it and is in favour of wealth generation. However, making money with money is deemed immoral, and wealth should be generated via trade or trade-based investments.

The table that follows summarises the main Islamic finance transactions, and how they differ from other forms of business financing.

<table>
<thead>
<tr>
<th>Islamic finance transaction</th>
<th>Similar to</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murabaha</td>
<td>Trade credit/loan</td>
<td>There is a pre-agreed mark-up to be paid in recognition of the convenience of paying later for an asset that is transferred immediately. There is no interest charged.</td>
</tr>
<tr>
<td>Musharaka</td>
<td>Venture capital</td>
<td>Typically suitable for investments in business ventures or specific business projects. Profits are shared according to a pre-agreed contract. There are no dividends paid. Losses are shared according to capital contribution.</td>
</tr>
<tr>
<td>Mudaraba</td>
<td>Equity</td>
<td>One of the partners (the rab al mal) contributes capital, and the other (the mudarib) contributes skill and expertise. Profits are shared according to a pre-agreed contract. There are no dividends paid. Losses are solely attributable to the provider of capital.</td>
</tr>
<tr>
<td>Ijara</td>
<td>Leasing</td>
<td>Whether an operating or finance transaction, in ijara the lessor is still the owner of the asset and incurs the risk of ownership. This means that the lessor will be responsible for major maintenance and insurance which is different from a conventional finance lease.</td>
</tr>
<tr>
<td>Sukuk</td>
<td>Bonds</td>
<td>There is an underlying tangible asset that the sukuk holder shares in the risk and rewards of ownership. This gives the sukuk properties of equity finance as well as debt finance.</td>
</tr>
</tbody>
</table>

SECTION SUMMARY

Smaller unlisted companies may need to seek alternative sources of funding to the traditional sources described in earlier sections of this chapter. These include crowd funding, venture capital, business angels and government grants. Islamic finance is another growing type of finance in the international community, and is based on the concept of sharing risk and reward between the investor and the user of funds rather than the charging of interest.
Quick Quiz

1. Is the Singapore stock exchange a money market?
2. What is the main weakness of the dividend growth model as a model for estimating the cost of equity?
3. When should values for equity and debt capital in the statement of financial position be used to calculate a WACC for investment appraisal purposes?
4. What is the main assumption that is made when the WACC is used as the cost of capital for DCF capital investment appraisal?
5. Suggest two reasons why systematic risk may vary between companies.
Answers to Quick Quiz

1. No. A stock exchange is a capital market, not a money market.
2. The dividend growth model is based on an assumption about shareholder expectations about the future rate of dividend growth in perpetuity. Forecasting future dividend payments is a matter of judgement or guesswork.
3. Only if specified that book values should be used, or where market values are not available, such as for a bank loan.
4. The main assumption is that there will be no change in the general level of finance risk or business risk as a result of investing in any projects.
5. Systematic risk (and beta values) differs between companies because of differences in finance risk (gearing levels) and business risk.

Answers to Questions

4.1

<table>
<thead>
<tr>
<th>Number of shares</th>
<th>S$</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>15.00</td>
</tr>
<tr>
<td>3</td>
<td>6.60</td>
</tr>
<tr>
<td>8</td>
<td>21.60</td>
</tr>
</tbody>
</table>

Theoretical Ex-Rights Price is $21.60/8 = $2.70

The rights issue will be an issue of 60 million new shares (3/5 × 100 million shares) to raise $132 million ($2.20 × 60 million) less underwriting fees and other issue costs.

The rights issue is large, with shareholders invited to subscribe for three new shares for every five they hold. Many existing shareholders may be reluctant to invest so much extra capital in the company. The share price will be expected to fall substantially: the Theoretical Ex-Rights Price is 10% below the current share price. Investors may therefore be concerned about the share price after the rights issue. If the rights issue is not well supported by shareholders, the underwriters may be required to buy the unwanted shares. If this happens, they may sell the shares at the earliest opportunity, and this will keep the share price depressed.

4.2

Expected return = 2.5 + 1.1 (6 – 2.5) = 6.35%
Actual return = 6.5%
Difference = alpha value = (6.5 – 6.35) = + 0.15%.

Actual return was slightly higher than the expected return, due to factors unconnected with systematic risk (unsystematic risk).

4.3

<table>
<thead>
<tr>
<th>Market values</th>
<th>$'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity ($E)$;</td>
<td>5,000 × $1.30</td>
</tr>
<tr>
<td>Bonds ($B)$;</td>
<td>1,000 × 0.72</td>
</tr>
<tr>
<td></td>
<td>7,220</td>
</tr>
</tbody>
</table>
**Cost of equity**

\[ k_e = 0.15(1.08)/1.30 + 0.08 = 0.2046 = 20.46\% \]

**Cost of bonds**

We do not know when the bonds will be redeemed. The only possible assumption is that whenever the bonds mature, they will be replaced by identical debt. It is therefore assumed that the bonds will be in perpetuity.

\[ \frac{i}{MV} \times (1 - t) = \frac{12}{72} \times (1 - 0.20) = 13.33\% \]

**Weighted average cost of capital**

<table>
<thead>
<tr>
<th>Market value</th>
<th>Cost</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>$6,500</td>
<td>20.46%</td>
</tr>
<tr>
<td>Debt</td>
<td>$720</td>
<td>13.33%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$7,220</strong></td>
<td></td>
</tr>
</tbody>
</table>

\[ WACC = \frac{1,425.88}{7,220} = 0.197 = 19.7\%, \text{ rounded to 20\%} \]

The low gearing means that the WACC is close in value to the cost of equity.
This chapter reviews the different theories about whether there is an ideal capital structure for companies, and also considers the implications of the choice of finance on capital investment decisions.

**Topic list**

1. Capital structure
2. Modigliani and Miller theory of capital structure and cost of capital
3. Project-specific cost of capital
4. Adjusted Present Value (APV) method of investment appraisal
1 Capital structure

SECTION INTRODUCTION

This section introduces an analysis of capital structure and whether there is an ideal balance between equity and debt capital in a company's capital structure.

When a company raises new capital, the choice is mainly between new equity capital and new debt capital. If a large amount of capital is raised, the capital structure of the company will change. Raising large amounts of new debt capital increases financial gearing, and raising new equity capital reduces gearing.

A company must decide which method of financing would be preferable, and what its capital structure should be. Another way of asking this question is: What is the optimal level of financial gearing?

For the purpose of this chapter, financial gearing is defined simply as:

\[
\frac{\text{Market value of long-term debt capital}}{\text{Market value of equity capital}} \quad \text{or} \quad \frac{\text{Market value of long-term debt capital}}{\text{Market value of equity capital} + \text{market value of debt capital}}
\]

It can be argued that higher levels of financial gearing are appropriate in the following circumstances:

(a) The company has strong cash flows and good profitability. This means that it has the cash flows and profits to meet any additional interest payments.

(b) Most of the company's assets are tangible, and so may be suitable as collateral for borrowing.

(c) The gearing ratio is relatively low, so in theory there is scope for increasing debt finance.

(d) The share price is low, so issuing new shares to raise capital may be inappropriate.

(e) In Small and Medium-sized Enterprises (SMEs) the owners may not wish to dilute their share of the ownership by issuing shares to non-related parties; SMEs may therefore prefer to borrow if possible rather than raise capital by issuing shares.

(f) When finance is needed quickly and time is of the essence, debt financing is usually quicker to arrange than securing external equity funding.

1.1 Traditional view of capital structure

A traditional view of capital structure is as follows:

(a) Debt capital has the advantage that companies receive tax relief on interest costs. The cost of debt is less than the cost of equity.

(b) As the level of financial gearing increases, the financial risk for equity shareholders also increases, and the cost of equity (the return required by shareholders) increases.
(c) As the level of financial gearing increases, the cost of debt remains constant up to a certain gearing level. At higher levels of gearing, the cost of debt capital also increases because there is a rise in the financial risk for providers of debt capital as the interest cover ratio (the ratio of operating profits to interest costs) falls.

(d) There is an ideal level of financial gearing. This is the level of gearing that minimises the Weighted Average Cost of Capital (WACC), and so minimises the weighted average returns on investment required by the company's capital providers.

This traditional view about the cost of capital is illustrated in the following diagram. It shows that the Weighted Average Cost of Capital will be minimised at a particular level of gearing P.

![Graph showing the relationship between cost of capital and level of gearing]

Where
- \( k_{eg} \) is the cost of equity in the geared company
- \( k_d \) is the cost of debt
- \( k_0 \) is the Weighted Average Cost of Capital

The traditional view is that the Weighted Average Cost of Capital, when plotted against the level of gearing, is saucer shaped. The optimum capital structure is where the Weighted Average Cost of Capital is lowest, at point P. This view of gearing and WACC was challenged from 1958 by Modigliani and Miller, whose important theories are explained in the following section. (Modigliani, F.; Miller, M. (1958). 'The Cost of Capital, Corporation Finance and the Theory of Investment'. American Economic Review 48 (3): 261–297. Also Modigliani, F.; Miller, M. (1963). 'Corporate income taxes and the cost of capital: a correction'. American Economic Review 53 (3): 433–443).

SECTION SUMMARY

A traditional view of capital structure is that higher levels of gearing increase financial risk for providers of capital. As gearing increases, the cost of equity rises and eventually the cost of debt also rises. There is an ideal level of gearing for a company: this is the level of gearing that minimises the WACC.

Modigliani and Miller disagreed with this traditional view and proposed a different theory of capital structure.
2 Modigliani and Miller theory of capital structure and cost of capital

SECTION INTRODUCTION
This section explains the theory of capital structure proposed by Modigliani and Miller (MM), who developed formulae to measure the cost of equity and the Weighted Average Cost of Capital at different levels of financial gearing.

2.1 Modigliani and Miller's initial theory: ignoring tax
Initially Modigliani and Miller (MM) proposed a theory of gearing that ignored tax relief on interest. This theory is called the net operating income approach.

MM proposed that the total market value of a company, in the absence of tax, will be determined only by two factors:
- The total earnings of the company
- The level of operating risk (business risk) for those earnings

The capital structure does not affect the value of a company or the WACC.

The total market value of a company can be calculated by discounting the total earnings at a rate that is appropriate to the level of operating risk. This rate is the WACC of the company.

Total market value of company (equity plus debt) = Earnings/WACC.

Modigliani and Miller concluded that, ignoring taxation, the capital structure of a company has no effect on its overall value or WACC.

This view is illustrated in the following diagram.

![Diagram showing cost of capital vs level of gearing]

MM made various assumptions in arriving at this conclusion.

(a) A perfect capital market exists, in which investors have the same information, and they act on this information rationally to arrive at the same expectations about future earnings and risks.

(b) There is no tax and no transaction costs.

(c) Debt is risk-free and freely available at the same cost to investors and companies alike.

This theory was unsatisfactory because it ignored tax, and MM subsequently developed an amended theory that allows for tax relief on debt interest.
2.2 Modigliani and Miller's theory adjusted for taxation

Having argued that debt capital has no benefit in the absence of taxation, MM went on to demonstrate that debt capital and higher gearing is beneficial when tax relief on debt interest is taken into consideration.

Tax relief on debt interest reduces the cost of debt by a factor \((1 - t)\) where \(t\) is the rate of tax. MM modified their theory to argue that tax relief on interest makes debt capital cheaper to a company, and therefore reduces the Weighted Average Cost of Capital. They argued that the WACC will continue to fall as the level of gearing increases, and WACC is minimised at gearing of 100% (or close to 100%).

This view is illustrated in the following diagram.

![Diagram showing the relationship between Cost of capital and Gearing up to 100%]

MM developed a number of formulae in support of their theory to measure the total market value of a company, the cost of equity and the WACC at different levels of gearing.

2.3 Formulae in MM theory

MM developed the following formulae as part of their with-taxation theory.

2.3.1 Total market value

One formula compares the total market value of a geared company (equity plus debt capital) with the market value of a company that is identical in every respect, except that it has no gearing at all.

\[
V_g = V_u + Dt
\]

Where \(V_g\) = value of debt plus equity in a geared company

\(V_u\) = value of equity in an equivalent ungeared company

\(D\) = market value of the debt capital in the geared company

\(t\) = tax rate

Dt is therefore the 'tax shield' on the company's debt capital.

This formula shows that with higher amounts of debt capital in the capital structure, the total value of the company is higher. This supports the argument that a company should be geared as highly as possible to maximise its total market value. (Note: This formula ignored bankruptcy risk, which may be higher in a geared company.)
2.3.2 Cost of equity

Another MM formula relates to the cost of equity in an ungeared company and the cost of equity in another company that is identical in every respect except that it has debt capital in its capital structure and is geared.

\[ k_{eq} = k_{eu} + (k_{eu} - k_d) \frac{V_d}{V_e} (1 - t) \]

Where  
- \( k_{eq} \) = the cost of equity in a geared company  
- \( k_{eu} \) = the cost of equity in an identical but ungeared company  
- \( V_d, V_e \) = the market values of debt and equity respectively  
- \( k_d \) = the cost of debt pre-tax  
- \( t \) = the corporate income tax rate

This formula shows that the cost of equity in a geared company is higher than the cost of equity in an ungeared company by a factor that is attributable to higher financial risk. The cost of equity increases as the relative value of debt to equity increases. In other words, the cost of equity increases as the level of gearing increases.

2.3.3 Adjusted cost of capital (WACC)

MM also provided a formula for an adjusted cost of capital, which is the Weighted Average Cost of Capital.

\[ k_{adj} = k_{eu} (1 - tL) \]

Where  
- \( k_{adj} \) = the Weighted Average Cost of Capital in a geared company  
- \( k_{eu} \) = the cost of equity in an ungeared company  
- \( t \) = the corporate income tax rate  
- \( L \) = the gearing ratio (or leverage ratio), measured as the market values of debt/(debt + equity)

This formula shows that WACC is reduced when gearing increases and there is more debt capital in the capital structure.

**Example**

These formulae are inter-connected, as the following example demonstrates.

Trap Ltd currently has no debt capital in its capital structure. The company's 200 million shares have a current value of $600 million. The company proposes to raise an additional $200 million for new investment that would not affect the business risk profile of the company's operations. The rate of tax relief on debt interest is 20%.

The risk-free rate of return is 3% and the average market return is 8%. The beta factor for the shares in Trap Ltd is 0.80. Assume that the cost of debt capital for Trap Ltd would be the same as the risk-free rate of return, if the company issues bonds.

**Required**

According to MM theory, what would happen to the market value of the company, the cost of equity and the WACC if the company chooses to raise the new capital by issuing bonds rather than by issuing new shares?

(Assume that there would be no transaction costs with issuing shares or debt.)
**Solution**

### Total market value

If the company issues new shares, the total value of the company after the share issue is assumed to be $600 million + $200 million = $800 million.

If the company issues $200 million of bonds, the total market value of the company will be:

\[ V_g = V_u + Dt \]

\[ V_g = $800 \text{ million} + ($200 \text{ million} \times 0.20) \]

\[ V_g = $840 \text{ million}. \]

Of this total market value, $200 million would be debt capital; therefore the total value of equity would be $640 million. Existing shareholders would benefit from the decision to issue debt rather than new equity.

### Cost of equity

The current cost of equity in Trap is 3% + 0.80 (8% - 3%)% = 7%. It is assumed that if the company raises capital by issuing new shares, this cost of equity will remain the same.

If the company issues debt capital and not equity, the cost of equity will change.

\[ k_{eq} = k_{eu} + (k_{eu} - k_d) \frac{V_d}{V_e} (1 - t) \]

\[ k_{eq} = 7 + [(7 - 3) \times 200/640 \times (1 - 0.20)] \]

\[ k_{eq} = 7 + 1 = 8 \]

The cost of equity would increase from 7% to 8%.

### WACC/adjusted cost of capital

\[ k_{adj} = k_{eu} (1 - tL) \]

\[ k_{adj} = 7 \times [1 - (0.20 \times 200/840)] \]

\[ k_{adj} = 7 \times (1 - 0.04762) = 6.667\% \]

**Check on WACC**

<table>
<thead>
<tr>
<th>Market value (MV)</th>
<th>Cost</th>
<th>MV × Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity 640</td>
<td>8</td>
<td>5,120</td>
</tr>
<tr>
<td>Debt 200</td>
<td>3 (1 - 0.20)</td>
<td>480</td>
</tr>
<tr>
<td><strong>840</strong></td>
<td></td>
<td><strong>5,600</strong></td>
</tr>
</tbody>
</table>

WACC = 5,600/840 = 6.667%
Question 5.1 Adjusting the cost of capital

This question gives you an opportunity to familiarise yourself with the MM formulae.

Wing Ltd is a geared company. It has equity shares that have a market value of $800 million and debt capital with a market value of $400 million. The beta factor for the company's shares is 1.2, the average market return in 10% and the risk-free rate of return is 4%. The company's debt capital is risk-free. The rate of tax on company profits is 20%.

Required, using MM formulae

(a) What would be the market value of the company if it had no debt capital and was ungeared?

(b) What would be the cost of equity in this ungeared company?

(c) What would be the market value of the company if it is geared but has $200 million of debt rather than $400 million? What would be the cost of equity and the WACC of the company with this capital structure? Assume that the debt capital is risk-free.

2.4 Weaknesses in MM theory

MM theory has been criticised as follows.

(a) MM theory assumes that capital markets are perfect. For example, a company will always be able to raise finance to fund worthwhile projects. This ignores the danger that higher gearing can lead to financial distress costs, when the business struggles to pay the interest on the debt capital and may be required to pay higher interest charges because of its perceived credit risk.

(b) MM theory assumes that transaction costs can be ignored, whereas in practice they can be quite high.

(c) Investors are assumed to act rationally, which may not be the case in practice.

In the real world some of the theoretical assumptions in MM theory are invalid. The most unrealistic assumptions are that capital markets are perfect and that debt is risk-free. Almost every borrower and lender/provider of debt capital would agree that there is greater risk at very high levels of gearing. This risk is that the borrower will not be able to make the interest payments and the company may become insolvent.

In reality there are a number of factors that can influence the capital structure and restrict the level of gearing.

(a) Debt capacity. Debt capacity is the maximum amount of debt that a company can support or obtain. A company will have a greater capacity to borrow if it has assets that can be offered as collateral (security) on the debt.

(b) A company can only increase its borrowing if there are lenders willing to provide finance. This may not necessarily always be easy depending on the financial position of the company and the state of the economy.

(c) Existing debt may have covenants attached. These may include covenants that require the company to keep its borrowing within certain specified limits. Existing covenants may therefore prevent or limit opportunities for further borrowing.

(d) MM theory assumes that the cost of debt is unchanged at all levels of gearing. In reality as a borrower takes on greater levels of debt, and is perceived to be riskier, the lender's required rate of return is likely to increase.

(e) The benefit of tax relief on debt is only available whilst the borrower is making a taxable profit. If gearing is high enough, there will be a point where the interest payments will reduce taxable profit
to zero and any further debt will not benefit from tax relief. This is known as **tax exhaustion**. However as the borrower would be making a loss, this would also be likely to cause debt covenants to be breached: breaching a borrowing covenant may create more serious problems for the company because it would give the lender/bondholders the right to demand immediate repayment of the debt.

**SECTION SUMMARY**

Modigliani and Miller argued that in the absence of tax relief on interest costs, the capital structure of a company has no effect on the total value of the company, and the WACC is the same at all levels of gearing.

Allowing for taxation, however, MM argued that although the cost of equity increases as gearing increases, the total value of the company increases and the WACC falls with increases in the level of gearing. They developed a number of formulae to show what the total market value of a company, the cost of equity and the WACC would be at different levels of gearing.

### 3 Project-specific cost of capital

**SECTION INTRODUCTION**

MM theory can be used to calculate the cost of capital to use for investment appraisal in situations where the investment has different business risk or different finance risk characteristics, and where using the WACC would be inappropriate.

This section explains how MM theory can be applied to calculate the systematic risk and beta values when business risk and/or finance risk is different.

#### 3.1 Beta values and finance risk

Financial risk is the increased variability in shareholder returns suffered by the shareholders as a result of increased interest payments. This might best be illustrated using some simple numbers. Taxation is ignored for the purposes of this example.

The two companies below are identical in every way, except the way in which they are financed. ‘Ungeared’ is all-equity financed, whereas ‘geared’ is partly financed by debt:

<table>
<thead>
<tr>
<th>Year</th>
<th>Ungeared</th>
<th>Geared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Profit</td>
<td>Interest</td>
</tr>
<tr>
<td>Year 1</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Year 2</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Year 3</td>
<td>200</td>
<td>200</td>
</tr>
</tbody>
</table>

The profits are the same in any one year because the businesses themselves perform identically – it is only their sources of finance that differ.

What is **not** significant is the fact that in any one year absolute shareholder returns are lower in the geared company. As the geared company is partly financed by debt, it will have issued relatively less share capital than the ungeared company – dividends per share may be higher or lower; it is impossible to tell.

What is **significant** is the variability in returns experienced by shareholders in the geared company.

The two companies below are identical in every way, except the way in which they are financed. ‘Ungeared’ is all-equity financed, whereas ‘geared’ is partly financed by debt:

<table>
<thead>
<tr>
<th>Year</th>
<th>Ungeared</th>
<th>Geared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Profit</td>
<td>Interest</td>
</tr>
<tr>
<td>Year 1</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Year 2</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Year 3</td>
<td>200</td>
<td>200</td>
</tr>
</tbody>
</table>

The profits are the same in any one year because the businesses themselves perform identically – it is only their sources of finance that differ.

What is **not** significant is the fact that in any one year absolute shareholder returns are lower in the geared company. As the geared company is partly financed by debt, it will have issued relatively less share capital than the ungeared company – dividends per share may be higher or lower; it is impossible to tell.

What is **significant** is the variability in returns experienced by shareholders in the geared company.
Comparing year 1 shareholder returns to years 2 and 3 in relative terms:

<table>
<thead>
<tr>
<th></th>
<th>Ungeared</th>
<th>Geared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2 compared to year 1</td>
<td>50% decrease</td>
<td>83% decrease</td>
</tr>
<tr>
<td>Year 3 compared to year 1</td>
<td>100% increase</td>
<td>167% increase</td>
</tr>
</tbody>
</table>

The changes year on year are more significant in the geared company. In other words, returns per share are more volatile/variable in the geared company compared to the ungeared company. This means returns are riskier in the geared company, and the source of this risk is the company's capital structure and nothing to do with operations.

The phenomenon of increased risk suffered by shareholders due to increased gearing is known as **financial risk**.

Financial risk is therefore higher for a geared company than for an all-equity company, and the cost of equity is higher to allow for this greater risk. It also means that the $\beta$ value of equity in a geared company will be higher than the $\beta$ value of the equity in a similar ungeared company.

Similarly, when the business risk in one investment is higher than the business risk in another investment, the investor should expect a higher return from the higher-risk investment. The systematic risk and beta factor for the higher-risk investment is higher than for the lower-risk investment.

### 3.2 Asset betas and equity betas (geared and ungeared betas)

There is a connection between MM theory and the CAPM, and it is possible to establish a mathematical relationship between the $\beta$ value of an ungeared company and the $\beta$ value of equity in a similar, but geared, company. The $\beta$ value of a geared company is higher than the $\beta$ value of a company that is identical in every respect except that it is ungeared and therefore all-equity financed. This is because of the extra financial risk caused by using debt finance.

The **Hamada equation** relates:

- The beta factor for a geared firm, known as its **equity beta**, with
- The beta factor for an identical firm that has no debt capital and is all equity-financed: this is known as the **Asset Beta**.

When we assume that there is some risk with a company's debt capital, the mathematical relationship between an Asset Beta (ungeared beta) and the corresponding equity beta (geared beta) for a firm with debt in its capital structure can be stated as follows.

$$
\beta_d = \beta_u \left( \frac{V_E}{V_E + V_D(1-t)} \right) + \beta_e \left( \frac{V_D(1-t)}{V_E + V_D(1-t)} \right)
$$

Where

- $\beta_u$ = the beta factor of an ungeared company: the ungeared beta. This is also called the Asset Beta, and you may see it written as $\beta_a$.

- $\beta_e$ = the beta factor of equity in a similar, but geared company: the geared beta. This is also known as the equity beta, and you may see it written as $\beta_e$.

- $\beta_d$ = the beta factor of debt in the geared company.

- $V_D$ = the market value of the debt capital in the geared company.

- $V_E$ = the market value of the equity capital in the geared company.

- $t$ = the corporate income tax rate on company profits.
Debt is often assumed to be risk-free so that the beta factor of the debt \((\beta_d)\) is zero. When \(\beta_d = 0\), the above formula simplifies to the following form, which is known as the Hamada formula or Hamada equation:

\[
\beta_u = \beta_g \times \frac{V_u}{V_u + V_d(1-t)}
\]

Alternatively, re-arranging this formula:

\[
\beta_g = \beta_u \times \frac{V_u + V_d(1-t)}{V_u E} \text{, which simplifies further to:}
\]

\[
\beta_g = \beta_u \left[ 1 + \frac{V_d(1-t)}{V_u E} \right]
\]

It is important to understand the difference between an Asset Beta (ungeared beta) and a corresponding Equity Beta (geared beta).

(a) The Asset Beta or ungeared beta is a measure of the systematic risk in a company's business operations, before allowing for financial gearing/financial risk. It is a measure of the riskiness of the company's assets/projects only.

(b) An equity beta (geared beta) is a measure of the systematic risk that applies to returns on a company's equity capital, allowing for its gearing. It is higher than the ungeared equity beta to reflect the extra risk in shares of a geared company compared with an ungeared company.

(c) Since it is usually assumed that the beta value of a company's debt capital is 0, there is a direct relationship between the Asset Beta and an Equity beta.

The Hamada equation can be used to separate financial risk from business risk.

The concept of geared beta or equity beta can be applied to calculate an appropriate cost of capital for investment appraisal purposes, in a situation where a company is considering an investment in a project with different business risk characteristics from its current business operations. If a company plans to invest in a project which involves diversification into a new business, the investment will involve a different level of systematic risk from that applying to the company's existing business. A discount rate should be calculated which is specific to the project, and which takes account of both the project's systematic risk and the company's gearing level. The formula shown above can be used to establish what the discount rate should be.

### 3.3 Using the Hamada formula to calculate WACC

The basic principle is that if a company is considering an investment in a project that will change its capital structure or which will involve a different level of business risk, it should not use the WACC as the cost of capital for DCF analysis. Instead it should use a project-specific cost of capital.

There are two methods which can be used to calculate a project-specific cost of capital. Both methods begin by calculating an Asset Beta (ungeared beta).

#### 3.3.1 Approach 1

There are three steps in this approach.

(a) **Step 1:** Obtain information about the industry in which the company is considering whether to invest. For this industry, the business risk and finance risk characteristics are different. Use this information about the industry to calculate an ungeared beta factor for that industry.

\[
\beta_u = \beta_g \times \frac{V_u}{V_u + V_d(1-t)}
\]

(b) **Step 2:** Having calculated the ungeared beta for the industry, use the CAPM to calculate the cost of equity in an ungeared company in the industry.
(c) **Step 3:** Finally, calculate a cost of capital that the company should use for a DCF evaluation of the investment. This can be calculated assuming that the company will not change its capital structure. The MM formula for the adjusted cost of capital should be used.

\[ k_{adj} = k_{eu}(1 - tL) \]

Where

- \( k_{adj} \) is the Weighted Average Cost of Capital of a geared company
- \( k_{eu} \) is the cost of equity and the WACC of a similar ungeared company
- \( t \) is the tax saving due to interest payments expressed as a decimal, usually equal to the corporate income tax rate
- \( L \) is equivalent to \( \frac{V_d}{V_d + V_e} \)

**Example**

Bruno Ltd is a geared company with a debt to equity ratio of 2:5 by market values. The company's debt, which is risk-free, yields 6% before tax. The beta value of the company's equity is currently 1.10. The average returns on stock market equity are 10%.

Bruno Ltd is now proposing to invest in a project which would involve diversification into a new industry. The following information is available about this industry.

(a) Average beta coefficient of equity capital = 1.75  
(b) Average debt to equity ratio in the industry (by market values) = 1:2

The rate of tax is 20%. What would be a suitable cost of capital to apply to the project, assuming that Bruno Ltd would not change its capital structure when financing the new investment?

**Solution**

1. **STEP 1**
   
   Use information about the industry to calculate an Asset Beta for the industry.
   
   \[ \beta_u = 1.75 \times \frac{2}{2 + 1(1 - 0.20)} \]
   
   \[ \beta_u = 1.25 \]

2. **STEP 2**
   
   Use this Asset Beta value and the CAPM to calculate the cost of equity in an ungeared company in the industry:
   
   \[ k_{eu} = 6\% + 1.25(10 - 6)\% = 11\%. \]

3. **STEP 3**
   
   Use the ungeared cost of equity to calculate an adjusted cost of equity, assuming that Bruno Ltd will not change its capital structure if it invests in the industry.
   
   \[ k_{adj} = k_{eu}(1 - tL) \]
   
   \[ L = 2/(5 + 2) = 2/7 \]
   
   \[ k_{adj} = 11(1 - (0.20 \times 2/7)) \]
   
   \[ k_{adj} = 11 \times 0.942857 = 10.37\%. \]

The cost of capital for evaluating the investment should be 10.37%. The company may round this up to 10.4% or possibly 11%. 
3.3.2 Approach 2

This approach also has three steps.

**STEP 1**
This is exactly the same as Step 1 in Approach 1. Obtain information about the industry in which the company is considering whether to invest. For this industry, the business risk and finance risk characteristics are different. Use this information about the industry to calculate an Asset Beta factor for that industry.

\[ \beta_u = \beta_g \frac{V_E}{V_E + V_D(1-t)} \]

**STEP 2**
Re-gear the beta for the company's actual gearing level. This is the beta factor that would apply to the company's equity capital if it were to invest in the new industry.

The formula to use is:

\[ \beta_g = \beta_u [1 + (1 - t) \frac{V_D}{V_E}] \]

Having calculated an equity beta for the geared company, calculate the cost of equity for the company if it were to invest in the new industry.

**STEP 3**
Use this cost of equity and the company's cost of debt to calculate the WACC using the formula below

\[ WACC = k_e \frac{V_E}{V_E + V_D} + k_d (1 - t) \frac{V_D}{V_E + V_D} \]

**Example**
Approach 2 can be applied to the previous example as follows:

Same as in Approach 1. \( \beta_u = 1.25 \)

Re-gear the beta to allow for the actual capital structure of Bruno Ltd

\( V_D = 2 \) and \( V_E = 5 \) because the debt: equity ratio is 2:5

\[ \beta_g = \beta_u [1 + (1 - t) \frac{V_D}{V_E}] \]

\[ \beta_g = 1.25 [1 + (1 - 0.20) \frac{2}{5}] \]

\[ \beta_g = 1.25 \times 1.32 = 1.65 \]

Applying this beta factor to the Capital Asset Pricing Model:

The cost of equity = 6% + 1.65 (10 – 6)% = 12.6%

Calculate the WACC

\[ WACC = 12.6\% \times \frac{5}{(5 + 2)} + 6\% \times (1 - 0.20) \times \frac{2}{(5 + 2)} \]

\[ WACC = 9.00 + 1.37143 = 10.37\%. \]
**Question 5.2**

**Hamada equation**

Two companies are identical in every respect except for their capital structure. XY Ltd has a debt to equity ratio of 1:3, and its equity has a $\beta$ value of 1.20. PQ Ltd has a debt to equity ratio of 2:3. The rate of tax is 17%. Estimate a $\beta$ value for the equity capital of PQ Ltd.

**Question 5.3**

**Obtaining a discount rate**

Sing Ltd is a quoted company that wants to raise S$300 million to build a new production plant in a country in South East Asia. The company evaluates its proposed capital investments using the NPV method of Discounted Cash Flow analysis, but is not sure what cost of capital to use in the DCF analysis for this project.

The company is also proposing to increase its equity finance in the near future for expansion in its domestic market, resulting overall in little change in the company's market-weighted capital gearing.

The summarised financial data for the company before the expansion are shown below.

*Statement of consolidated income for the year ended 31 December 20X4*

<table>
<thead>
<tr>
<th></th>
<th>S$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>3,978</td>
</tr>
<tr>
<td>Gross profit</td>
<td>864</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>162</td>
</tr>
<tr>
<td>Dividends</td>
<td>74</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>88</td>
</tr>
</tbody>
</table>

*Statement of financial position as at 31 December 20X4*

<table>
<thead>
<tr>
<th></th>
<th>S$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-current assets</td>
<td>1,692</td>
</tr>
<tr>
<td>Working capital</td>
<td>700</td>
</tr>
<tr>
<td>Medium term and long term loans (see note below)</td>
<td>2,392</td>
</tr>
<tr>
<td>420</td>
<td></td>
</tr>
<tr>
<td>Shareholders' funds</td>
<td></td>
</tr>
<tr>
<td>Equity shares and reserves</td>
<td>1,972</td>
</tr>
</tbody>
</table>

The medium and long term loans consist of:

(a) S$150m of fixed rate bonds (face value) due to mature in five years' time, and
(b) Bank loans, whose market value is the amount of the loan.

You should assume that all loans and bonds are risk-free and have a pre-tax cost of 4.75%. The bonds have a market price of S$120 per S$100.

The rate of tax on the company's profits is 30%. The company has 900 million shares in issue. These are currently trading at S$3.76 on the stock market.

The equity beta of Sing Ltd is estimated to be 1.18. The systematic risk of debt may be assumed to be zero. The risk-free rate is 4.75% and market return 11.75%.

The estimated equity beta of the main competitor in South East Asia in the same industry as the new proposed plant is 1.5, and the competitor's capital gearing is 60% equity and 40% debt by market values.

*Required*

Estimate the cost of capital that the company should use as the discount rate for its proposed investment in the South East Asian country. State clearly any assumptions that you make.
SECTION SUMMARY
This section has explained how a cost of capital for investment appraisal can be determined for an investment where the business risk (and financial risk) is different. The technique involves ungearing and re-gearing beta values to obtain an appropriate cost of equity and adjusted cost of capital for the proposed new investment.

4 Adjusted Present Value (APV) method of investment appraisal

SECTION INTRODUCTION
We have seen that the capital structure and gearing level of a company has implications for its WACC. The value of a proposed new investment, as measured by its present value, should therefore depend partly on how the investment is financed and how the financing method affects gearing.

The adjusted present value (APV) method of investment appraisal is a method of investment appraisal that takes into consideration the use of debt capital to finance the investment.

4.1 Introduction to the Adjusted Present Value (APV) method
The previous sections have shown how Modigliani and Miller's theory can be used to obtain a cost of capital for evaluating a project where the business risk and finance risk for the new investment differ from the company's current risk profile, and the systematic risk is therefore different. Because the systematic risk of the new investment is different, the WACC should not be used as the cost of capital for DCF analysis.

The Adjusted Present Value (APV) method is an alternative method of capital investment appraisal. It is derived from MM theory.

4.2 The steps in APV analysis
There are two stages in the APV method of investment appraisal:

(a) **Stage 1**: Assume that the company is all-equity financed and evaluate the project by discounting the cash flows at a cost of capital for an ungeared company. The Net Present Value (NPV) produced from this calculation is called the **base case NPV**.

(b) **Stage 2**: Make adjustments to the base case NPV to allow for the method of financing that will be used for the investment.

4.2.1 Stage 1: Calculate the base case NPV
The company making the investment is geared and has debt capital in its capital structure. The debt is not risk-free.

We can use the MM formula for the cost of equity in an ungeared and an ungeared company to calculate a cost of equity in a company that is all-equity financed.

\[
k_{eq} = k_{eu} + (k_{eu} - k_d) \frac{V_d(1-t)}{V_e}
\]

In this formula, \(k_d\) is the pre-tax cost of the company's debt capital.
The cost of equity in an ungeared company \((k_{eu})\) is the cost of capital that should now be used to discount the cash flows of the proposed investment and calculate the base case NPV.

### 4.2.2 Stage 2: Make adjustments to the base case NPV

Several adjustments may be made to the base case NPV to allow for the method of financing the investment and to calculate the adjusted present value of the investment. These adjustments are:

(a) Adding to the present value to allow for the tax relief on the interest payable on the debt capital

(b) Reducing or increasing the present value to allow for other costs associated with the method of financing.

In the following example, other costs associated with the method of financing are ignored. They will be explained later. In addition it is assumed that the debt capital in the capital structure will be perpetual debt, so that the tax savings on interest costs will be a benefit in perpetuity.

If we make this assumption about perpetual debt, we can use the MM formula:

\[ V_g = V_u + V_D \]

By including gearing in the capital structure, the value of a company will be higher than the value of an equivalent all-equity company by \(D_t\). This is the value of the 'tax shield' provided by the tax relief on interest costs. This tax shield should be added to the base case NPV because it represents an addition to the value of the company resulting from the use of debt capital in the financing for the project.

### Example

A company is considering a project that would cost $3,500,000 to be financed 50% by new equity (cost 10%) and 50% by new debt finance (pre-tax cost 5%). The financing method would maintain the company's WACC unchanged. The cash flows from the project would be $350,000 a year in perpetuity, before interest charges. The rate of tax on corporate profits is 20%.

Appraise the project using:

(a) The NPV method, discounting the project cash flows at the WACC

(b) The APV method

Remember that when there are cash flows in perpetuity, the present value of the cash flows = Annual cash flow/Cost of capital.

#### Solution

**NPV method**

<table>
<thead>
<tr>
<th>Calculate the current WACC</th>
<th>Cost %</th>
<th>Weighting</th>
<th>Product %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>10</td>
<td>0.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Debt ((5% \times (1 - 0.20)))</td>
<td>4</td>
<td>0.5</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>WACC</strong></td>
<td></td>
<td></td>
<td><strong>7.0</strong></td>
</tr>
</tbody>
</table>

Annual cash flows in perpetuity from the project are as follows.

<table>
<thead>
<tr>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before tax</td>
</tr>
<tr>
<td>Less tax (20%)</td>
</tr>
<tr>
<td>After tax</td>
</tr>
</tbody>
</table>

NPV of project = \(-3,500,000 + (280,000 \div 0.07)\)

= \(-3,500,000 + 4,000,000\)

= + $500,000
Note: that the tax relief on debt interest is included in the calculation of the WACC and is not included in the project cash flows.

Since $3,500,000 of new investment will be created, for which new finance will be raised, the total value of the company should increase by $4,000,000. This is the new finance obtained for the investment ($3,500,000) + the $500,000 NPV of the investment.

To maintain the financial gearing at 50%, one half of the $4,000,000 should be debt capital.

So the company can raise 50% × $4,000,000 = $2,000,000 of debt capital with a pre-tax cost of 5%, and (the balance = $3,500,000 – $2,000,000) $1,500,000 as equity. The NPV of the project ($500,000) will raise the value of this equity from $1,500,000 to $2,000,000, leaving the gearing ratio at 50:50.

**APV method**

The APV method of investment analysis for this project is as follows.

**STEP 1**

Calculate the cost of ungeared equity

\[
k_{eg} = k_{eu} + \left[ k_{eu} – k_d \right] \frac{V_o [1 – t]}{V_t}
\]

Remember that \(k_d\) is the pre-tax cost of debt. Using the information in the example:

\[
10 = k_{eu} + \left( (k_{eu} – 5) \times \frac{2,000,000(1 – 0.20)}{2,000,000} \right)
\]

\[
10 = k_{eu} + 0.80k_{eu} – 4
\]

\[
1.80k_{eu} = 14
\]

\[
k_{eu} = 7.7778%
\]

Next, we calculate the NPV of the project as if it were all equity financed. The cost of equity would be 7.7778%

\[
NPV = \frac{280,000}{0.07778} – 3,500,000 = 100,000
\]

**STEP 2**

Adjust for the value of the tax shield

When a new project is financed wholly or partly with new debt finance, there will be tax relief on the interest. The PV of these tax benefits should be included in the APV of the project.

Since this relief will be in perpetuity, we can use the MM formula:

\[
V_r (APV) = V_u + V_d t
\]

\[
= + $100,000 + ($2,000,000 \times 0.20)
\]

\[
= + $100,000 + $400,000
\]

\[
= $500,000
\]

The value \(D_t\) (value of debt × corporate tax rate) represents the present value of the tax shield on debt interest, that is the present value of the savings arising from tax relief on debt interest. This can be proved as follows.

Annual interest charge = 5% of $2,000,000 = $100,000

Tax saving (20% × $100,000) = $20,000

Cost of debt (pre-tax) = 5%

PV of tax savings in perpetuity $20,000/0.05 = $400,000.

\[
D_t = 2,000,000 \times 0.20 = 400,000
\]

is a quicker way of deriving the same value. Note, however, this only works where the interest is payable in perpetuity. If not the PV of the tax shield will need to be computed differently, above using an appropriate annuity factor for the duration of the tax shield.
4.2.3 Present value of the tax shield when debt is not perpetual

When a new project is financed wholly or partly with new debt finance, there will be tax relief on the interest. The PV of these tax benefits should be included in the APV of the project.

When the debt capital to finance a project will not be perpetual debt, the PV of the tax relief on interest is calculated as follows:

(a) Calculate the interest costs in each year to maturity of the debt

(b) Calculate the savings in taxation arising as a consequence, for each year of the project

(c) Discount these savings in taxation to a present value, using the pre-tax (before-tax) rate of interest on the debt as the discount rate. If tax is payable one year after the cash flows to which they relate, the tax relief will be one year in arrears

Example

Suppose that a company will finance a new investment partly by issuing $2,000,000 in 8% bonds at par. The bonds are redeemable after five years and the pre-tax cost of the bonds is 8%. The rate of taxation is 20%. Tax is payable one year after the year of the related cash flows to which the tax relates.

The present value of the debt shield is calculated as follows.

<table>
<thead>
<tr>
<th>Year of interest payment</th>
<th>Annual interest</th>
<th>Annual tax saving (20%)</th>
<th>Year of tax saving</th>
<th>Discount factor at 8%</th>
<th>PV of tax savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5</td>
<td>$160,000</td>
<td>$32,000</td>
<td>2 – 6</td>
<td>3.697</td>
<td>$118,304</td>
</tr>
</tbody>
</table>

Cumulative PV factor at 8%, years 1 – 6 = 4.623
PV factor at 8%, Year 1 = (0.926)
Cumulative PV factor at 8%, years 2 – 6 = 3.697

In this example, the base case NPV should be adjusted by adding $118,304 as the present value of the tax shield (tax savings on debt interest).

(Note: Make sure you use the pre-tax cost of debt to discount the tax relief on interest costs, and not the cost of equity.)

4.2.4 APV method and changes in gearing

In the previous example comparing the NPV and APV methods, both methods produced the same result – an increase in value of $500,000. However, this is due to the fact that an assumption in the calculations is that the gearing level of the company (and so its finance risk) will be unchanged with the new investment.

The APV method can also be adapted to allow for financing a project in a way that changes the gearing structure and the WACC of the company. In this respect, the APV method is superior to the NPV method.

Suppose that in the previous example, the entire project costing $3,500,000 is financed entirely by debt. The APV of the project would be calculated as follows.

(a) The NPV of project if all equity financed is:

\[ \frac{\$280,000}{0.07778} - \$3,500,000 = + \$100,000 \] (as before)

(b) The adjustment to allow for the method of financing is the present value of the tax relief on debt interest in perpetuity.

\[ V_D = \$3,500,000 \times 0.20 = \$700,000 \]

(c) APV = $100,000 + $700,000 = + $800,000

The project would increase the value of equity by $800,000.
4.2.5 Bankruptcy cost and the APV method

The explanation above of the APV method ignores the fact that if a company uses debt to finance a project, and benefits from the tax shield (tax relief on debt interest) it will also be exposed to greater financial risk. As the level of gearing increases, so too does the risk of default on borrowing.

The APV method should therefore include a cost for the risk of default – a bankruptcy cost – which will reduce the total APV.

Unfortunately, it is extremely difficult to estimate a bankruptcy cost; so it is difficult to include a bankruptcy cost within an APV calculation. Even so, you should be aware of this aspect of the APV method.

Question 5.4

A project costing $1,000,000 is to be financed by $600,000 of irredeemable 12% bonds and $400,000 of new equity. The project will yield an after-tax annual cash flow of $210,000 in perpetuity. If it were all equity financed, an appropriate cost of capital would be 15%. The tax rate is 30%. What is the project's APV? (Ignore bankruptcy cost.)

4.2.6 Discounting tax relief at the risk-free cost of capital

In your examination, you may be given the risk-free rate of return. As tax relief is allowed by the government and is almost certain to happen, there is an argument for saying that all tax relief should be discounted at the risk-free rate. However there is the opposing argument that the risk of the tax relief is the same as the risk of the debt to which it relates, and therefore the tax relief should be discounted at the cost of debt.

So the present value of tax relief, which has been calculated in the previous examples using the pre-tax cost of debt, could be calculated instead using the risk-free cost of capital as the discount rate.

In the exam, if you are given information that allows you to use either of these methods, we suggest that you make clear the reason for choosing the discount rate that you have selected for discounting the tax relief, and add a comment that an alternative rate might be used.

4.3 Other items in the APV calculation

So far the only adjustment to the base case NPV has been an adjustment for the present value of the tax relief on debt interest. Other costs associated with the method of financing may also be included in the APV calculation.

4.3.1 Costs of issuing or raising new capital

The costs of obtaining the finance needed for the project may also be brought into the calculation. The present value of this cost should be deducted from the base case NPV, because issue costs reduce the value of an investment.

Example

Parto Ltd is considering whether to invest in a project. The initial investment would be $20 million and would generate cash flow over four years. If it is undertaken, the project will be financed with a $10 million 10-year bond issue at a coupon of 7% and a rights issue of shares. Issue costs would be 5% of the amounts raised, for both the bond issue and the share issue.

Calculate the issue costs that should be included in the APV calculation.
Solution

Issue costs will be 5% of the amounts raised, and will be paid for out of the proceeds of the bond and share issues. The company needs $20 million after paying for the issue costs. The total amount issued must therefore be higher than the net amount required for investment.

Therefore $20 million must be 95%, not 100% of the total amount raised, and the issue costs = \( \frac{5}{95} \times 20 \text{ million} = \$1,052,632 \)

These issue costs do not need to be discounted because they will be paid in Year 0, before the investment begins. A complication arises if issue costs are allowable for tax purposes.

Example

Assume in the example above that issue costs are allowable for tax purposes, the tax rate is 20% and tax is assumed to be one year in arrears. The risk-free rate of return is assumed to be 4%.

Calculate the tax effect of the issuing costs to be included in the APV calculation.

Solution

Tax savings on issue costs = Tax rate \times Issue costs \times Discount factor (= risk-free cost of capital, Year 1 DCF factor)

\[ = 0.20 \times 1,052,632 \times 0.962 = \$202,526 \]

Summary of adjustments to APV for issue costs

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue costs (reduce APV)</td>
<td>(1,052,632)</td>
</tr>
<tr>
<td>Tax relief on issue costs (add to APV)</td>
<td>202,526</td>
</tr>
<tr>
<td>Net effect on APV of issue costs</td>
<td>(850,106)</td>
</tr>
</tbody>
</table>

4.3.2 Spare debt capacity

Projects may provide other incremental benefits. An example is that investing in a project may increase the debt capacity (borrowing capacity) of the company. These benefits should be included in the APV calculations, even if the debt capacity is used elsewhere.

Example

In the previous example of Parto Ltd, suppose the project increased the borrowing capacity of the company by $6 million (for the four years of the project) at the risk-free rate of return of 4%. Tax is payable one year in arrears.

Calculate the effect on the APV.
Solution

The project will enable the company to borrow more, and the incremental cash flow benefit is the **tax shield effect** of the increased debt finance.

<table>
<thead>
<tr>
<th>Present value of tax shield</th>
<th>Increased debt capacity</th>
<th>Interest rate</th>
<th>Tax rate</th>
<th>Discount factor at risk-free rate (4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV of tax shield</td>
<td>$6,000,000</td>
<td>7%</td>
<td>20%</td>
<td>3.490</td>
</tr>
</tbody>
</table>

Cumulative PV factor at 4%, years 1 – 5 = 4.452
PV factor at 4%, Year 1 = (0.962)
Cumulative PV factor at 4%, years 2 – 5 = 3.490

This should be added to the APV.

### 4.3.3 Subsidy

You may face a situation where a company can obtain finance at a lower interest rate than its normal cost of borrowing. In this situation you have to include in the APV calculation the tax shield effect of the cheaper finance, and the effect of the saving in interest.

#### Example

Long Ltd is about to start a project requiring $6 million of initial investment. The company normally borrows at 8% but a government loan will be available to finance all the project at an interest rate of 5%. The risk-free rate of interest is 4%.

Tax is payable at 20%, one year in arrears. The project is scheduled to last for four years.

Calculate the effect on the APV calculation if Long Ltd finances the project by means of the government loan.

#### Solution

(a) The **tax shield** is calculated as follows.

We assume that the loan is for the duration of the project (four years) only.

Annual interest = $6 million × 5% = $300,000
Tax relief each year = $300,000 × 0.20 = $60,000

This should be discounted over years 2 to 5 (remember the one year time lag). We do not use the 5% interest cost to discount the loan and the tax effect. Instead we assume that the government loan is risk-free and the tax effect is also risk-free. Therefore we use the 4% risk-free rate to discount the tax benefits.

NPV tax relief = $60,000 × Discount factor at 4%, Years 2 to 5
= $60,000 × 3.490
= $209,400

(b) We also need to take into account the benefits of **being able** to pay a **lower interest rate**.

Benefits = $6 million × (8% – 5%) × 4% Discount factor Years 1 to 4
= $6 million × 3% × 3.630
= $653,400

These benefits should be added to calculate the APV (in addition to the benefit of the tax shield).
4.4 Advantages and disadvantages of the APV method

The main advantages of the APV are as follows.

(a) APV can be used to evaluate all the effects of financing an investment including:
   (i) The benefits of a tax shield
   (ii) Change in the capital structure
   (iii) Any other relevant financing cost or benefit, such as the costs of raising new finance (issue costs)

(b) When using APV you do not have to adjust the WACC.

(c) The APV method allows for the specific tax relief on the borrowing to finance the project, and does not assume that the debt will be perpetual debt.

The main difficulties with the APV technique are:

(a) Establishing a suitable cost of equity, for the initial DCF computation as if the project were all-equity financed, and also establishing the all-equity (un geared) $\beta$.

(b) Identifying all the costs associated with the method of financing.

(c) Choosing the correct discount rates used to discount the costs.

SECTION SUMMARY

The Adjusted Present Value (APV) method is an alternative method of investment appraisal. It calculates a base case NPV assuming that the investment will be all-equity financed, and then makes adjustments to allow for the present value of other benefits and costs such as the benefit of the tax shield on debt finance and the costs of raising new capital to finance the investment.
Chapter Roundup

Capital structure

Balancing...

Equity capital

Debt capital

Financial gearing level

MM theory

APV

Tax-free

With-tax

Cost of equity

WACC

Project-specific

Beta

Geared

Ungeared

1: Base case NPV

2: Adjustments

3: Other items
Quick Quiz

1. According to the traditional view of WACC, what happens to WACC as gearing increases?
2. (a) Why is the cost of debt for a company lower than the cost of its equity?
   (b) If the cost of debt is lower than the cost of equity, does it make sense for companies to increase their financial gearing as much as possible?
3. What three steps are involved in calculating a project specific cost of capital?
4. What are the two steps involved in calculating an APV?
5. What are the difficulties involved in using the APV technique?
Answers to Quick Quiz

1. As gearing increases, WACC declines initially until there is an optimal capital structure. WACC then rises.

2. (a) Debt is cheaper than equity for two main reasons. There is less investment risk with debt: a company must pay lenders before it pays dividends to shareholders, and in the event of liquidation of the company, lenders rank ahead of shareholders in order of priority for payment out of the proceeds from liquidating the company's assets. Secondly, debt interest attracts tax relief for the company, whereas dividend payments do not.

   (b) In practice, companies will often raise new debt capital when it is available at a low rate of interest, and may even use the money to buy back and cancel equity shares. However, the cost of equity increases with higher financial gearing, and it is possible that a company's gearing becomes so high that increasing the gearing ratio will result in a rise in the weighted average cost of capital and a fall in the value of the company and its equity.

3. Either of two methods

   **Method 1**

   **STEP 1**
   Find a typical Equity Beta for a company in the area the business is moving into and remove the effect of gearing to calculate an ungeared beta for the industry.

   **STEP 2**
   Use this ungeared beta to calculate the ungeared cost of equity $k_e$ for this industry.

   **STEP 3**
   Use this ungeared $k_e$ to calculate the WACC using the MM formula.

   $$k_{adj} = k_{eu}(1 - t_L)$$

   **Method 2**

   **STEP 1**
   Find a typical Equity Beta for a company in the area the business is moving into and remove the effect of gearing to calculate an ungeared beta for the industry.

   **STEP 2**
   Re-gear the beta using the company's gearing using the formula using the formula

   $$\beta_g = \beta_u + (\beta_u - \beta_d) \frac{V_d(1 - t)}{V_e}$$

   and calculate the $k_e$ geared.
4

**STEP 1**

Calculate the base case NPV as if ungeared using keu.

**STEP 2**

Adjust for the effects of the financing method chosen.

5

(a) Establishing a suitable cost of equity, for the initial DCF computation as if the project were all-equity financed, and also establishing the all-equity $\beta$

(b) Identifying all the costs associated with the method of financing

(c) Choosing the correct discount rates used to discount the costs
Answers to Questions

5.1

(a) Workings:

Current cost of equity in geared company = 4\% + 1.2 \times (10 - 4)\% = 11.2\% 

WACC of the company with its current capital structure

\[ = 11.2 \times \left( \frac{800}{1,200} \right) + 4 \times (1 - 0.20) \times \left( \frac{400}{1,200} \right) \]

\[ = 7.4667 + 1.0666 = 8.5333\%. \]

If the company were ungeared:

\[ V_g = V_u + V_d \]

\[ 1,200 = V_u + (400 \times 0.20) \]

\[ V_u = 1,120 \]

The total market value of the all-equity company would be $1,120 million, which is less than the total market value of the geared company.

(b) \[ k_{eg} = k_{eu} + \left( k_{eu} - k_d \right) \frac{V_d}{V_g} (1 - t) \]

\[ 11.2 = k_{eu} + \left( k_{eu} - 4 \right) \left( \frac{400}{800} \right) (1 - 0.20) \]

\[ 11.2 = k_{eu} + 0.4(k_{eu} - 4) \]

\[ 1.4k_{eu} = 12.8 \]

\[ k_{eu} = 9.142857\% \]

Since the company is all-equity the WACC is also 9.142857\%.

Proof:

\[ k_{adj} = k_{eu}(1 - tL) \]

\[ 8.5333 = k_{eu} \times \left[ 1 - (0.20 \times 400/1,200) \right] \]

\[ 8.5333 = 0.9333k_{eu} \]

\[ k_{eu} = 9.142857\%. \] (There is a small rounding difference.)

(c) Re-gear the company

We can now use the figures for the all-equity company to calculate what the value of the company would be if it were geared with $200 million of debt.

Market value: \[ V_g = 1,120 + 200 (0.20) \]

\[ V_g = 1,160. \]

Of this total market value, $200 million would be the value of debt capital, therefore the market value of the equity would be $960 million.

Cost of equity in geared company:

\[ k_{eg} = 9.142857 + (9.142857 - 4) \left( \frac{200}{960} \right) (1 - 0.20) \]

\[ k_{eg} = 9.142857 + 0.857143 \]

\[ k_{eg} = 10. \]

WACC/adjusted cost of capital:

\[ k_{adj} = 9.142857 \times \left[ 1 - (0.20 \times 200/1,160) \right] \]

\[ k_{adj} = 9.142857 \times 0.96552 = 8.8276\%. \]
5.2

Estimate an ungeared beta from the information about XY Ltd.

\[ \beta_a = 1.20 \times \frac{3}{3+1(1-0.17)} \]
\[ \beta_a = 0.9399 \]

Estimate a geared beta for PQ Ltd using this ungeared beta. It is assumed that the debt capital is risk-free and the beta factor for the debt is therefore 0.

\[ \beta_e = 0.9399 + (0.9399 - 0) \frac{2(1-0.17)}{3} \]
\[ \beta_e = 0.9399 + 0.5201 = 1.460 \]

5.3

The cost of capital should take into account the systematic risk of the new investment, and therefore it will not be appropriate to use the company’s existing Equity Beta. Instead, the estimated Equity Beta of the main competitor in the same industry as the new proposed plant should be ungeared, and then the capital structure of Sing Ltd applied to find the WACC to be used for the discount rate.

Since the systematic risk of debt can be assumed to be zero, the Equity Beta of the competitor in South East Asia can be ‘ungeared’ using the formula:

\[ \beta_u = \beta_e \frac{V_e}{V_e + V_d(1-t)} \]
\[ \beta_u = 1.5 \left( \frac{60}{60+40(1-0.30)} \right) = 1.023 \]

The next step is to calculate the debt and equity of Sing Ltd based on market values.

<table>
<thead>
<tr>
<th></th>
<th>S$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt: bonds</td>
<td>(S$150 million at 120.00)</td>
</tr>
<tr>
<td>Debt: bank loans</td>
<td>(420 – 150)</td>
</tr>
<tr>
<td>Total market value of debt</td>
<td></td>
</tr>
<tr>
<td>Market value of equity</td>
<td>900m shares at S$3.76</td>
</tr>
<tr>
<td>Total market value of company</td>
<td></td>
</tr>
</tbody>
</table>

The beta can now be re-geared

\[ \beta_g = 1.023 \left( 1 + \left( 1 - 0.30 \right) \frac{450}{3,834} \right) = 1.023 \times 1.0931 = 1.118 \]

This can now be substituted into the Capital Asset Pricing Model (CAPM) to find the cost of equity.

\[ k_e = R_f + [R_m - R_f]\beta \]
\[ k_e = 4.75% + 1.118 \times (11.75% - 4.75%) = 12.58% \]

The WACC can now be calculated:

\[ WACC = 12.58% \times \frac{3,384}{3,834} + 4.75% \times (1 - 0.30) \times \frac{450}{3,834} \]
\[ = 11.10 + 0.39 \]
\[ = 11.49% \]

5.4

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>NPV if all equity financed: $210,000/0.15 – $1,000,000</td>
<td>400,000</td>
</tr>
<tr>
<td>PV of the tax shield: ($600,000 \times 12% \times 30%)/0.12</td>
<td>180,000</td>
</tr>
<tr>
<td>APV</td>
<td>580,000</td>
</tr>
</tbody>
</table>
Many companies trade internationally and export their goods or services to other countries. Some companies establish a global business by establishing sales offices, branches or subsidiary companies in foreign markets. This chapter begins by looking at issues that influence a decision by a company to invest abroad, and the aspects of international investment that differ from capital investments in the domestic market.

Proposals to make an investment in another country should be subject to financial evaluation using Discounted Cash Flow analysis. This evaluation may need to take into consideration the foreign exchange risk, taxation rules and, in some cases, exchange controls on remittances of currency out of the country of investment.

International trading has opened up global markets and created opportunities for foreign investments. For some companies, there may also be opportunities to raise finance in the international capital markets for equities or bonds.

This chapter considers all these aspects of global business: international investment, international investment appraisal and international financing.
Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>International Investment and Financing Decisions</strong></td>
<td></td>
</tr>
<tr>
<td>Describe the environment in which an organisation operates, including the main</td>
<td>3</td>
</tr>
<tr>
<td>economic, legal, political, social, technical, international and cultural forces</td>
<td></td>
</tr>
<tr>
<td>Analyse the aspects of the global environment that affect international trade and</td>
<td>3</td>
</tr>
<tr>
<td>finance</td>
<td></td>
</tr>
<tr>
<td>Identify the features of globalisation, including the role of multinationals,</td>
<td>3</td>
</tr>
<tr>
<td>e-commerce, economic communities and emerging markets</td>
<td></td>
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<tr>
<td>Evaluate the significance of exchange controls for a given investment decision and</td>
<td>3</td>
</tr>
<tr>
<td>strategies for dealing with restricted remittance.</td>
<td></td>
</tr>
<tr>
<td>Assess the impact of a project upon a company’s exposure to foreign exchange,</td>
<td>3</td>
</tr>
<tr>
<td>cross-border transactions and economic risk.</td>
<td></td>
</tr>
<tr>
<td>Assess the costs and benefits of alternative sources of financing available within</td>
<td>2</td>
</tr>
<tr>
<td>the international equity and bond markets.</td>
<td></td>
</tr>
</tbody>
</table>

ESSENTIAL READING

FRS 111 Joint arrangements

Copies of Singapore legislation can be found at http://statutes.agc.gov.sg

Exchange Control Act Chapter 99

For information on Singapore’s international tax treaties and also the IRAS Transfer Pricing Guidelines, visit: www.iras.gov.sg

1 The global trading environment

SECTION INTRODUCTION

For most growing companies, an entry into some form of international trade is an almost inevitable development. This brings a large number of opportunities and equally numerous complications. Not only is the basic cultural and social environment likely to be quite different from the domestic market, international trade has its own distinct body of rules, both economic and legal.

1.1 International trade

International trade is the exchange of goods and services between countries. An import is the Singapore purchase of a good or service made overseas. An export is the sale of a Singapore-made good or service overseas.

Companies will enter into international trade for a number of different reasons.

(a) **Growth.** If the domestic market is static or growth is slow, or if competition is excessively fierce, a company may seek to explore new areas within which it can hope to compete or operate without competition.
(b) **Economies of scale.** Since volume of output and unit cost are related, increased volume may lead to lower-than-competitive costs. Expanding into international markets may provide the level of sales necessary to benefit from economies of scale.

(c) **International competition.** Markets of all kinds are becoming globalised. Transnational market segments have developed, whose characteristics are more alike than the different segments within an individual country. International trade then becomes a necessity.

(d) **National necessity.** Imports must be paid for with foreign currency, and exports provide the means of acquiring this currency.

This has all meant a proliferation of suppliers exporting to, or trading in, a wider variety of places.

In many domestic markets it is now likely that the same international companies will be competing with one another. Here are some notable features of the international market place:

(a) **Globalisation of business** – increased competition and global customers

(b) **Science and technology** developments (the digital age, computing, telecommunications and information science in general)

(c) Mergers, acquisitions and **strategic alliances**

(d) Changing **customer values** and behaviour

(e) Increased **scrutiny** of business decisions by government and the public, with greater focus on ethical dimensions

(f) Increased **deregulation**, privatisation and co-operation between business and government

(g) Changes in **business practices** – downsizing, outsourcing and re-engineering

(h) Changes in the **social and business** relationships between companies and their employees, customers and other stakeholders

While more and more companies are competing in the world market place, most of them tend to focus on the **developed markets**, which can be broadly defined as those with relatively high levels of economic growth and security. As of October 2017, Standard and Poors classifies the following 25 countries as developed markets.

<table>
<thead>
<tr>
<th>Country</th>
<th>Country</th>
<th>Country</th>
<th>Country</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Finland</td>
<td>Israel</td>
<td>New Zealand</td>
<td>Spain</td>
</tr>
<tr>
<td>Austria</td>
<td>France</td>
<td>Italy</td>
<td>Norway</td>
<td>Sweden</td>
</tr>
<tr>
<td>Belgium</td>
<td>Germany</td>
<td>Japan</td>
<td>Portugal</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Canada</td>
<td>Hong Kong</td>
<td>Luxembourg</td>
<td>Singapore</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Denmark</td>
<td>Ireland</td>
<td>Netherlands</td>
<td>South Korea</td>
<td>United States</td>
</tr>
</tbody>
</table>

Emerging markets are also participants in international trade. ‘Emerging market’ is a term used to describe a developing country, in which investment can produce high returns but involves greater risk.

While there is no precise definition of what an emerging market is, it can be thought of in terms of the number of quoted companies of a certain size, and a market’s openness to foreign ownership and capital. Emerging markets are characterised by high growth and rapid urbanisation, with young populations.

The FTSE emerging markets index counted the following countries as the top ten emerging markets at the end of May 2016.

<table>
<thead>
<tr>
<th>Country</th>
<th>Country</th>
<th>Country</th>
<th>Country</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>India</td>
<td>Malaysia</td>
<td>Russia</td>
<td>Taiwan</td>
</tr>
<tr>
<td>China</td>
<td>Indonesia</td>
<td>Mexico</td>
<td>South Africa</td>
<td>Thailand</td>
</tr>
</tbody>
</table>

The acronym ‘BRIC’ economies is used to describe Brazil, Russia, India and China.
1.2 The international trading environment

The environment of international trade may be analysed in the same way as the domestic environment, though it has its own special features, including international political relationships, supranational institutions, a variety of currencies and a wider range of social and economic influences.

Business organisations are subject to a range of international influences.

(a) In times of increasing free trade, firms can expect incoming competition. That said, the possibility of competing abroad is also available.

(b) A firm can attract investment from overseas institutions. Competing firms from overseas can receive investments from domestic institutions.

(c) The barrier between the domestic and international environment is relatively permeable.

Much of the environment of international trade may be analysed using the PESTEL approach.

Political factors

Government attitudes

The development of plans will depend on the following factors.

(a) The stability of the government. Rapid changes or political unrest make it difficult to estimate reactions to an importer or a foreign business.

(b) International relations. The government's attitude to the firm's home government or country may affect trading relations.

(c) The ideology of the government and its role in the economy will affect the way in which the company may be allowed to trade, and this might be embodied in legislation.

(d) Informal relations between government officials and businesses are important in some countries. Cultivation of the right political contacts may be essential.

Political risk is the possibility of turbulence (e.g., civil war, revolution, changes in government policy) in the political environment.

Expropriation and other dangers

History contains dismal tales of investment projects that went wrong, and were expropriated (nationalised) by the local government.

In addition to expropriation, there are other dangers.

• Restrictions on profit repatriation (e.g., for currency reasons)
• Cronyism and corruption leading to unfair treatment
• Arbitrary changes in taxation
• Pressure group activity

Measures to reduce political risk

• Use local partners with good contacts
• Vertical integration of activities over a number of different countries
• Local borrowing (although not a good idea in high inflation countries)
• Leasing rather than outright purchase of facilities in overseas markets
• Take out insurance

Economic factors

Economic factors affect the demand for, and the ability to acquire, goods and services. Some important economic factors are given below.
PART B INVESTMENT APPRAISAL | 6: International investment and financing decisions

- The overall level of economic activity
- The relative levels of inflation in the domestic and overseas market
- The exchange rate
- The relative prosperity of individual overseas markets
- Economic growth in newly industrialised countries

Social issues
- The culture and social practices in individual markets
- The media and distribution systems in overseas markets
- The differences of ways of doing business
- The degree to which national cultural differences matter
- The degree to which a firm can use its own national culture as a selling point

The higher rate of population growth in less-developed countries compared with developed countries has arisen due to a continuing high birth rate and a declining death rate. Social changes (eg attitudes to large families) have not accompanied medical advances imported from developed societies. People are living longer.

Technological factors
- The degree to which a firm can imitate the technology of its competitors
- A firm's access to domestic and overseas patents
- Intellectual property protection
- Technology transfer requirements
- The relative cost of technology compared to labour
- The competence of potential service contractors in the target country

Environmental protection
The environmental and sustainability aspects of the home environment are equally applicable in the international trade environment. The legislative impact may be lower in some countries, but the media are likely to give enormous publicity to any perceived failings, whether justified or not.

Legal factors
Legislation is likely to be an important influence on a firm's trade with a particular country. Important elements are listed below.

(a) The nature and principles of the local legal system
(b) Law of ownership. Especially in developing countries, there may be legislation requiring local majority ownership of a firm or its subsidiary in that country.
(c) Acceptance of international trademark, copyright and patent conventions. Not all countries recognise such international conventions.
(d) The structure of company law
(e) Contract law

1.3 The theory of comparative cost advantage
The benefits of international trade are often quite clear. When a country, perhaps because of its climate, is unable to produce certain goods at home (or can do so only at a very high cost) it will have to import them from abroad and offer other goods which it produces cheaply in exchange. Britain, for instance, could produce bananas and pineapples, but only at a prohibitively high cost by growing them in hot houses. Similarly, countries like Japan with little or no natural endowment of resources such as oil, coal and other mineral deposits must buy their requirements from overseas.
The theory of comparative cost advantage states that the world economy will benefit if all countries:
(a) Concentrate on producing what they are good at, and export the surplus
(b) Import from other countries those goods that other countries are better able to produce.

The following example assumes for simplicity two nations, each of which can only produce two goods, with no transportation costs and no economies/diseconomies of scale. Each nation has the same endowment of resources but their aptitude in producing the two goods (which we will call cars and rice) differs. If at present, each applies half of its resources to each good, let us suppose that the following pattern of production results:

<table>
<thead>
<tr>
<th>Cars (number)</th>
<th>Rice (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nation A</td>
<td>100</td>
</tr>
<tr>
<td>Nation B</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
</tr>
</tbody>
</table>

If we examine the relative or comparative cost of each good in each nation we find in:

A each car produced involves an opportunity cost of \( \frac{1}{2} \) a unit of rice; each unit of rice involves foregoing two cars.
B each car involves foregoing four units of rice; each unit of rice involves foregoing \( \frac{1}{4} \) of a car.

Clearly, the opportunity cost of car manufacture is least in Nation A, while Nation B enjoys a comparative advantage in rice growing. If we now persuade the governments of each nation to switch their production capacity to specialising in the good where their advantage is greatest (and remembering the assumption of no scale economies) we find:

<table>
<thead>
<tr>
<th>Cars (number)</th>
<th>Rice (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nation A</td>
<td>200</td>
</tr>
<tr>
<td>Nation B</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
</tr>
</tbody>
</table>

Total world production has increased by 80 cars and 30 units of rice, and trade is possible within the exchange limits of one car for four units of rice (B's opportunity cost) and one unit of rice for two cars (A's opportunity cost). For example, B could offer 60 units of surplus rice for 20 cars (an exchange rate of 3:1) and still be better off by 20 units of rice, while A would then have 180 cars and 60 units of rice, resulting in both nations being better off than without specialisation. However, transport costs in practice will eat into these gains, while diminishing returns may prevent the production gains from being so significant.

1.4 The balance of payments

The balance of payments account is a summary of a country's trade dealings with the rest of the world. Receipts in the balance of payments come from exports of goods and services and inflows of capital. Payments come from imports of goods and services and outflows of capital.

The balance of payments account has three parts:
(a) Current account
(b) Capital account
(c) Financial account

Current account transactions are sub-divided into four parts.
- Trade in goods
- Trade in services
- Income (interest, profit, dividends)
- Transfers

The capital account balance is made up of public sector flows of capital into and out of the country, such as government loans to other countries.

The balance on the financial account is made up of flows of capital to and from the nongovernment sector, such as direct investment in overseas facilities; portfolio investment (in shares, bonds etc); and
speculative flows of currency (‘hot money’). Movements on government foreign currency reserves are also included under this heading.

If a multinational company invests in Singapore this would be shown as an inflow under the investment section of the financial account. Similarly, if speculators buy up Singapore dollars in response to interest rate or exchange rate movements, these movements will be shown as inflows in the financial account.

**The sum of the balance of payments accounts must always be zero** (ignoring statistical errors in collecting the figures). This is for the same reason that a balance sheet must always balance: for every debit there must be a credit.

So if the current account is in **deficit** it must be matched by a **surplus** on the capital or financial accounts.

If a country is suffering a current account deficit, it will need to attract additional capital and financial inflows into it. It can do this either by attracting **foreign direct investment** from multinational companies, or attracting foreign funds. It will achieve the latter through having a more attractive level of interest rates than other countries. This could lead to conflict between a domestic need for low interest rates and the need for higher interest rates to attract foreign funds.

**Example:**

As of 2016, Singapore’s current account surplus stood at $78.1 billion and amounted to 19.0% of GDP, while the capital and financial account deficit recorded a net lending of $81.9 billion.

1.5 Exchange rates

An **exchange rate** is the ratio at which two currencies are traded, that is, the price of one currency in terms of another.

Exchange rates determine the terms of trade. For any pair of countries there is a range of exchange rates that can lead to both countries realising the gains from specialisation and comparative advantage described above.

**Foreign currency and international trade**

With international trade, there is often a need for foreign currency for at least one of the parties to the transaction.

(a) If a Singapore exporter sells goods to a US buyer, and charges the buyer S$200,000, the US buyer must obtain the dollars in order to pay the Singapore supplier. The US buyer will do this by using some of his US dollars to buy the S$200,000, probably from a bank in the USA.

(b) If a Singapore importer buys goods from Germany, he might be invoiced in euros, say €100,000. He must obtain this foreign currency to pay his debt, and he will do so by purchasing the euros from a Singapore bank in exchange for S$.

(c) If a Singapore investor wishes to invest in US capital bonds, he would have to pay for them in US dollars, and so he would have to sell S$ to obtain the US dollars.

Thus **capital outflows**, such as investing overseas, not just payments for imports, cause a demand to sell the domestic currency and buy foreign currencies. On the other hand, exports and capital inflows to a country cause a demand to buy the domestic currency in exchange for foreign currencies.

**Exchange rates and the Singapore balance of payments**

As in any other market, the market for foreign exchange is a market in which buyers and suppliers come into contact, and ‘prices’ (exchange rates) are set by supply and demand. Exchange rates change continually. Significant movements in the exchange rate for a country’s currency can have important
implications for the country's balance of payments. Changes in the supply of, or demand for, a currency can come about for a number of reasons:

(a) Changes in demand for a nation's currency can result from a significant change in exports from that country.

(b) An increase in imports by Singapore firms from Japan would have an opposite effect.

(c) Demand for foreign currencies can arise from transactions involving the purchase of assets overseas.

(d) Demand for a currency at any given time is influenced by individuals' confidence about future price levels for a currency.

Fluctuations in exchange rates can cause considerable uncertainty. A fall in the value of the Singapore dollar (depreciation) means one Singapore dollar now buys fewer US dollars, for example. Singapore exports become cheaper and Singapore imports become dearer. Hence, depreciation improves the balance of payments.

A rise in the value of the Singapore dollar (appreciation) means one Singapore dollar now buys more US dollars. Singapore exports become dearer and its imports become cheaper. Hence, appreciation worsens the balance of payments.

There is more on managing exchange rate risk in section 4.

1.6 International agreements

There have been many attempts to develop international agreements for the free movement of trade. At their simplest, international trade agreements comprise bilateral agreements between two countries to open up trade between the two.

The Organisation for Economic Co-operation and Development (OECD) works by trying to coordinate the economic policies of members, to co-ordinate programmes of economic aid and by providing specialised services, especially information.

The World Bank acts as an adviser to governments in the provision of international finance.

The International Monetary Fund (IMF) is essentially a world forum for international negotiations on governments' fiscal policies. Established in 1944 at Bretton Woods, the main aim of the IMF is to stabilise exchange rates and to lend money to countries needing foreign currency.

The World Trade Organisation (WTO) was set up in 1995 with the aim of helping trade to flow smoothly, freely, fairly and predictably. It:

(a) Administers trade agreements
(b) Acts as a forum for trade negotiations
(c) Settles trade disputes
(d) Reviews national trade policies
(e) Assists developing countries in trade policy issues

The world's two most powerful economies, the United States, and the European Union, have each wanted to forge links to neighbouring countries and deny access to rivals. Other major trading countries, like the fast growing exporters on the Pacific Rim and the big agricultural exporting nations, have also sought to create looser trade groupings to foster their interests. The formation of free trade zones and trade blocs is one of the major issues facing the world trading system – whether it leads to increased protectionism, or whether the trade blocs promote trade liberalisation. Sovereign countries belonging to a free trade area trade freely amongst themselves, but have individual trade barriers with countries outside the free trade area. All members have 'most favoured nation' status, which means that they are all treated equally.

Examples include North American Free Trade Area (NAFTA) between the USA, Canada and Mexico; Asia Pacific Economic Cooperation (APEC) and the Common Market for Eastern and Southern Africa (COMESA).
The Asia-Pacific Economic Cooperation forum (APEC) is a loose grouping of the countries bordering the Pacific Ocean who have pledged to facilitate free trade. Its 21 members range from Singapore, China and Russia to the United States, Japan and Australia.

The European Union (EU) has become the most powerful trading bloc in the world with a GDP exceeding that of the United States. The creation of the euro as a single currency (now used by 19 out of the 28 EU states) has led to ever-closer economic links. The European Economic Area (EEA) is a free trade area now comprising over 450 million people, and responsible for well over 40% of world trade. The member states are those of the EU plus Iceland, Liechtenstein and Norway. The purpose of the treaty is to allow the free movement of goods, persons, services and capital throughout the EEA. If a country wishes to join the EU, it must first become a member of the EEA. Areas of EU policy that lie outside of the EEA are relations with other countries (trading and development), fiscal policy, economic and monetary union (EMU) and the common agricultural policy (CAP).

1.7 International trade and Singapore

International trade has strongly influenced the Singapore economy. According to the WTO, Singapore has the highest trade to GDP ratio in the world, and because of its location and port facilities, a large volume of Singapore's trade involves re-exporting previously imported goods. Singapore has relatively few trade barriers, but there are some import restrictions arising from environmental, health, and public security concerns.

Singapore is a member of numerous regional free trade agreements (FTAs), notably the ASEAN Free Trade Area (AFTA). Other agreements include the Singapore-Europe Free Trade Association and the Trans-Pacific Strategic Economic Partnership. Singapore is by far the EU's largest commercial partner in ASEAN, accounting for slightly under one-third of EU-ASEAN trade in goods and services, and roughly two-thirds of investments between the two regions. Over 10,000 EU companies are established in Singapore, and use it as a centre from which to serve the entire area. Singapore also maintains free trade agreements with Australia, China, Jordan, India, Japan, Korea, New Zealand, Panama, Peru and the US.

Example:

The following export product groups represent the highest dollar value in Singapore global shipments in 2015:

1. Medical, technical equipment: US$15.4 billion (4.5% of total exports)
2. Aircraft, spacecraft: $6.4 billion (1.9%)
3. Gems, precious metals, coins: $6.7 billion (1.9%)
4. Other chemical goods: $5.1 billion (1.5%)
5. Pharmaceuticals: $6.8 billion (2%)
6. Electronic equipment: $118.2 billion (34.1%)
7. Plastics: $13.5 billion (3.9%)
8. Machines, engines, pumps: $51 billion (14.7%)
9. Organic chemicals: $15.6 billion (4.5%)
10. Oil: $43.8 billion (12.6%)

Singapore's primary imports are commodities: machinery and equipment, mineral fuels, chemicals, foodstuffs and consumer goods.

1.8 Globalisation

The term 'globalisation' of markets (Levitt, 1983) is an expression that relates first to demand: tastes, preferences and price-mindedness are becoming increasingly universal.

Second, it relates to the supply side: products and services tend to become more standardised and competition within industries reaches a world-wide scale. Some goods are needed almost everywhere: in the oil industry a truly global market exists in both production (by the North Sea, Venezuela, Russia,
Azerbaijan, Gulf states) and consumption (by any country using motor vehicles, and those with chemical industries based on oil).

Third, it relates to the way firms, mainly multinational corporations (ie those with operations in more than one country), try to design their marketing policies and operations appropriately so as to compete in the markets for global products for global consumers.

Broadly then, the term refers to the rapid integration of the global economy through these main drivers, facilitated by technological developments such as the rise of e-commerce.

### 1.9 Multinational corporations

At the beginning of this chapter we gave some of the reasons why companies engage in international trade. A multinational corporation (MNC) can be defined as a company which has its headquarters in one country, but has assembly or production facilities in other countries. By producing and selling in several countries, MNCs effectively link the economies of various countries and have contributed to the development of globalisation. Over 7,000 MNCs operate in Singapore, benefiting from the country’s stable political environment, skilled workforce and infrastructure.

There are several factors supporting multinational status:

- **To increase market share** – with saturation in the domestic market a company may need a new outlet
- **To secure cheaper factors of production** – land and labour will be cheaper in developing countries
- **To avoid tax or trade barriers** – different levels of corporation tax and lower barriers to entry could encourage overseas operations
- **Government grants** – these may be used to attract foreign investment

**Advantages of multinational companies**

Multinationals create jobs which boost the local economy, resulting in more workers to tax.

The skills of a local workforce are improved.

Multinationals are in position to benefit from economies of scale with lower production and purchasing costs per unit.

**Disadvantages of multinational companies**

Multinationals’ profits are not usually kept in the host country.

Multinationals have been accused of cutting corners, with social responsibility being overlooked. They have been accused of exploiting the workforce with low wages, long hours and taking advantage of relaxed health and safety and environmental laws.

### 1.10 E-commerce

Technology is one of the leading factors in the process of globalisation, and with an increasing population of Internet users across the world the use of the Internet to undertake transactions has grown rapidly in recent years.

E-commerce is the selling of goods and services using the Internet. It refers to the use of technology to transact business between and among companies (‘B2B’) and individuals (‘B2C’), and is the fastest growing form of retail trade, often described as being ‘borderless’. The key features of e-commerce include:

- Quicker buying and selling between transacting parties
- Increased availability of information pre-purchase
- Ability to transact ‘around the clock’
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- No geographical limitations
- Lower cost of operations for businesses, sometimes with reduced need for ‘bricks and mortar’ premises

**Example**

According to a report by Temasek and Google in May 2016, the e-commerce market in Singapore is expected to be worth S$7.46 billion by 2025. The report found that Singapore’s e-commerce market was valued at S$1.3 billion in 2015, with online shopping making up 2.1% of retail sales – the highest proportion of all Southeast Asian countries surveyed.

Southeast Asia is the world’s fastest growing Internet region, with its 260 million current users expected to grow to 480 million by 2020. The Internet economy in Southeast Asia is expected to exceed US$200 billion by 2025, driven mostly by the growth of the e-commerce market, followed by media and travel. Driving this growth are three factors unique to the region: a young population (70% of people are under the age of 40) a lack of large scale retailers (such as Wal-mart of the US) and a rapidly growing middle-class.


**Question 6.1**

Recent years have seen the growth of the global business with many companies expanding their activities across the world. Discuss the relevance of each of the following factors in this growth of the global company.

| (a) | Convergence of markets and global customers |
| (b) | Cost advantages |
| (c) | Governmental and trade policies |
| (d) | Global competition |

**SECTION SUMMARY**

International trade is the exchange of goods and services between countries, and companies will enter into it for a number of reasons. The environment of international trade may be analysed in the same way as the domestic environment, using PESTEL, but with its own special features. The theory of comparative advantage states that the world economy will benefit if countries concentrate on producing what they are good at and export the surplus, while importing from other countries those goods that other countries are better able to produce. This leads on to consideration of the balance of payments, and the operation of exchange rates. World trade is regulated by various international bodies and agreements aimed at free movement, and this opening up of borders has contributed to the process of globalisation with the emergence of multinational corporations and the continued development of e-commerce.
2 International investment

SECTION INTRODUCTION
Establishing business operations in another country involves more risks than trading in the domestic market. A company that makes a foreign investment must be aware of these risks and how some of them can be managed.

2.1 The nature of international investment

International investment by companies is also known as foreign direct investment (FDI). It involves establishing an operating facility in another country, or expanding an existing operating facility in another country. It is an alternative to investing in the company's domestic market.

There are different reasons why a firm may want to invest abroad.

- It may want to expand sales of its products internationally, and to do this, it may decide to establish an operating facility close to the target market. For example, a Singapore company wanting to sell its products in India may decide to open a factory in India.

- It may want to establish a business to provide raw materials or manufacture components for supply to its existing business in its home country.

- It may be cheaper to operate in another country. For example, a company that makes and sells fashion clothes may establish labour-intensive manufacturing operations in a low-wage country, and then ship the finished goods for sale in their intended market.

Different methods of international investment are available to meet strategic objectives.

(a) A company may expand by means of a new ‘start-up’ investment, for example by setting up of an overseas subsidiary to operate a manufacturing plant. However, it may take a long time to set up a new operation in a foreign country, and the investment may be slow in providing satisfactory financial returns.

(b) A company may take over an established business in the target country. However in some countries the government may not permit a takeover of a domestic company by a foreign buyer.

(c) A company may enter into a joint venture with a ‘local’ partner, by establishing a new company or partnership business in the target country.

2.2 Joint ventures and foreign subsidiaries

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Those parties are called joint venturers. In a joint-equity venture, each ‘partner’ makes an investment and receives a share of the equity in the joint venture business. This method of foreign investment may be the most appropriate in countries where 100% foreign ownership is discouraged. A joint venture also enables the partners to combine their skills and expertise to create a successful business.

Examples of foreign joint ventures

In 2013 the Australian Toga Group agreed a $450 million joint venture with Singapore property group Far East Orchard to manage Toga’s network of 50 serviced apartments and hotels across New Zealand, Australia, Germany and Denmark with further plans for expansion, particularly in Australia and New Zealand.

SIA Engineering Company of Singapore has a number of foreign joint ventures, including Hong Kong Aero Engine Services Ltd (HAESL) in which it has a 10% equity stake and the other joint venture partners are Hong Kong Aircraft Engineering Company Limited and Rolls-Royce. The joint venture business operates an aircraft engine repair and overhaul facility for Rolls-Royce engines. SIA Engineering also has a 49%
stake in PWA International Limited (PWAI), a joint venture in Ireland with Pratt & Whitney for aircraft maintenance and repairs.

The structure of many multinational groups consists of a parent company (a holding company) with subsidiaries in different countries. The subsidiaries may be wholly-owned or partly-owned. A multinational may establish a foreign subsidiary for any of the following reasons:

- To locate operations close to the target market
- To establish a selling and distribution operation in the target market
- To produce goods more cheaply by operating in a low-cost country
- To avoid import controls or import duties
- To obtain access to raw materials
- To obtain investment grants or tax concessions from the government.

2.3 Alternatives to foreign direct investment

A company may decide on an alternative to direct investment in a foreign country, because the alternative would be less risky or likely to produce better financial returns.

(a) Exporting may involve direct selling by the company's own export division into foreign markets, or it may involve selling indirectly through foreign agents or distributors. Exporting may be unattractive however because of import tariffs, import quotas and other import restrictions in foreign markets. Local production may be the only practical option in the case of bulky products such as cement.

(b) Licensing (by a 'licensor' company) involves giving a foreign producer the right to use of the licensor's production process in the foreign market, in return for royalty payments. Licensing can allow the licensor to enter into a foreign market quickly and for relatively little cost. A well-known example of licensing is Coca Cola, which produces the 'concentrate' for its drinks products and sells it to licensed Coca Cola bottlers worldwide. Each licence gives a bottler exclusive territorial rights. The bottler produces the finished Coca Cola products in bottles and cans using the 'secret formula' concentrate, filtered water and sweeteners and then sells and distributes the products to retailers and vending machines in their territory.

(c) Franchising. Some international companies such as McDonalds sell franchises to businesses in other countries. The business buying the franchise (the franchisee) operates a local business under the brand name of the franchisor (such as McDonalds), paying a variety of fees and charges for the right to do so. This method of foreign expansion enables the franchisor to create a bigger network of businesses than would be possible by means of direct investment.

2.4 The currency of financing for an investment

When a company makes a foreign direct investment, it will often obtain the finance for the investment in its own currency.

(a) It may have surplus cash available for making the investment.

(b) It may need to raise additional capital to make the investment, which it obtains by issuing new shares or new bonds in its domestic capital markets, or by obtaining a loan from a bank or consortium of banks.

(c) Instead of raising the finance in its own currency, a company may obtain a bank loan or make a bond issue in the country where the investment is made and in the currency of that country. For example, a Singapore company wishing to set up a subsidiary company in Malaysia may raise capital for the investment by borrowing in Malaysian ringgit in the Malaysian market. The ringgit loan will reduce net exposure to foreign exchange movements, as adverse movements in relation to the investment will be offset by favourable movements on the liability and vice versa.
Occasionally, a company may raise new capital in the international capital markets to finance a foreign investment. For example, a Singapore company wishing to make an investment in Vietnam may borrow the money for investment in US dollars in the international bond market. The international capital markets are discussed in more detail later.

**SECTION SUMMARY**

Foreign investment is an alternative to investing for business growth in the domestic market and many companies establish foreign operations, for a variety of different reasons. Common methods of foreign direct investment are establishing or acquiring a subsidiary in another country and establishing a joint venture. There are alternatives to foreign direct investment, such as exporting domestically-produced goods, and licensing and franchising agreements. Often a company will pay for a foreign investment in its own currency, but it may obtain finance for the investment in the currency of the country where the investment is made, or in an international currency such as US dollars.

### 3 Obtaining payments from a foreign investment

**SECTION INTRODUCTION**

When a company makes a foreign direct investment, it needs to consider how and when it expects to obtain a return on its investment.

#### 3.1 Methods of obtaining payment from a foreign investment

Whatever the business reasons for establishing a foreign operation, an investing company should expect to obtain a financial return from their investment. Return usually takes the form of payments from the foreign subsidiary or joint venture.

There are different ways of obtaining payments from a foreign operation.

(a) When the investment consists of ownership of all or part of the equity capital of a foreign company, the company may **pay dividends out of its profits**.

(b) When an investment includes the provision of a loan from the parent company, the foreign subsidiary will make **interest payments** on the loan.

(c) The parent company and the foreign subsidiary may trade with each other (or the foreign subsidiary may trade with other companies in the group) and the buying company pays for the goods or services that it buys. The sales price for goods or services traded between companies in the same group is known as a **transfer price**.

For example, an international company that manufactures products in Country A may establish a subsidiary in Country B to sell and distribute the products in Country B. The parent company will sell its products to the subsidiary in Country B at an agreed price (a transfer price). The subsidiary in Country B will pay for the goods that it buys, so the parent company receives **money from its sales to the subsidiary**.

(d) A parent company may also make **annual management charges or head office charges**, which each of its foreign subsidiaries pays. The amount of these charges is decided by the parent company.
(e) A parent company may allow a subsidiary to make goods protected by a patent (owned by the parent company) and charge a royalty on any goods that the subsidiary sells. The size of a royalty can be adjusted to suit the wishes of the parent company’s management.

(f) In some cases, the parent company may allow a foreign operation to retain and reinvest a large proportion of its profits, so that the foreign business can grow and develop. The eventual objective may be to sell the foreign operation to a buyer and make a capital gain on the sale.

3.2 Deciding the method or methods of obtaining payments

A company with a foreign direct investment often has choice about the method or methods that it uses to obtain payments from its foreign operation, although local regulations or legislation may impose restrictions.

The methods used to obtain payments from a foreign investment will depend on a number of different factors.

(a) Profitability of the foreign operation. If the foreign operation is currently unprofitable, it will be difficult to extract dividend payments. It may also be difficult to extract payments from transfer sales or management charges if this would put the foreign operation at financial risk and in danger of collapse.

(b) Taxation. An international company will usually use methods for obtaining payments from its foreign operations in a way that minimises its overall tax liability, whilst still acting within the law.

(c) Transfer price regulations. Local regulations in a foreign country may require transfer prices to be set at a reasonable level, not too high and not too low.

(d) Exchange controls. In some countries, the government may impose exchange control regulations, preventing or restricting payments out of the country. Restrictions may apply to payments by local companies in their domestic currency (where the government is trying to protect its currency against speculation) or in foreign currency (where the government is trying to protect the country’s limited stock of foreign currencies).

3.3 Taxation implications of foreign investment

Taxation can influence the manner in which the foreign investment is set up and returns are paid to the parent company (for example by transfer pricing).

If a company makes investments abroad it is liable to income tax in its home country on the profits that it makes from the investment. The ‘taxable profits’ may be any of the following:

- Profits of an overseas branch or agency (but not a foreign subsidiary or joint venture company)
- Interest income on loans to foreign operations
- Dividends from overseas subsidiaries or joint ventures
- Gains on disposals of foreign assets

A foreign subsidiary or joint venture will be subject to tax on its profits in its own country.

When a company pays dividends to its shareholders, tax rules may require the company to deduct tax from the total dividend (the gross dividend) and make a dividend payment after deduction of the tax (the net dividend). The tax deducted is called withholding tax and is usually paid to the host country government as part of the total income tax on its profits for the year.

The shareholder receives the net dividend and so has in effect paid the withholding tax on its dividends. The ability of the shareholder to recover this withholding tax depends on the tax law of the receiving country.

Question 6.2 Payments from a subsidiary

A parent company has a profitable subsidiary in a foreign country. It is considering the most appropriate method or methods of obtaining cash returns from the investment. It can make a management charge for
head office services or it can pay dividends out of the subsidiary’s profits. The rate of taxation on profits in the subsidiary’s country is 10% and in the parent company’s country it is 25%.

What factors should the parent company consider in deciding on the best way of obtaining payments from the foreign subsidiary?

3.4 Double taxation agreements

In many instances, a company may be liable for tax in its own country (‘local tax’) and in the foreign country (‘foreign tax’) on the same profits. However there are ways in which ‘double taxation’ here may be avoided, either wholly or partially.

A double taxation agreement is an agreement between two countries that is intended to avoid double taxation of income which would otherwise be subject to tax in both countries. Agreements are made between countries and they may differ in terms and conditions. Double taxation agreements based on the ‘OECD Model Agreement’ typically include the following provisions.

(a) Relief from double taxation is given in the home country to a taxpayer, by means of a tax credit for the tax paid in the foreign country on the same income. In other words, local tax payable in the home country is reduced by the tax paid in the foreign country on the same income. This may be in the form of relief:

- For withholding tax only, or
- Depending on the size of the investment in the foreign company, for the tax payable on the profits out of which dividends are paid.

(b) Preferential rates of withholding tax may be applied to foreign payments, such as payments of interest or dividends by a subsidiary to its parent company. The standard rate of withholding tax may be reduced to 15% or less.

Example: Double taxation relief

Suppose the tax rate on profits in the Federal West Asian Republic (FWAR) is 10%, the Singapore tax is 17%, and there is a double taxation agreement between the two countries.

A subsidiary of a Singapore company operating in FWAR earns the equivalent of S$1 million in profit, and therefore pays S$100,000 in tax on profits in that country. When the profits are remitted to Singapore, say in the form of dividend payments, the Singapore parent company can claim a credit of S$100,000 against the full Singapore tax charge of S$170,000. It will therefore pay only S$70,000 in tax to the Inland Revenue Authority in Singapore.

If the rate of taxation in FWAR is 20% rather than 10%, tax payable in FWAR would be the equivalent of S$200,000. When the profits are remitted to Singapore in the form of dividend payments, the Singapore parent company can claim a credit against the Singapore tax charge of S$170,000. This means that it will not be liable for any tax payment in Singapore. However, it cannot reclaim the $30,000 difference in tax rates ($200,000 – $170,000).

KEY POINT

A double taxation agreement is intended to prevent a taxpayer from paying two amounts of tax in full on the same income, as a full tax charge in each country. This may be important when making an investment appraisal of a proposed foreign investment, because tax payments and tax reliefs are an important element in the appraisal.
4 Risks with foreign investments

4.1 What are the risks?

The main risks with foreign investments that differ from risks with domestic investments are:

(a) Foreign exchange risks

(b) Political or country risks. Economic or political measures by the government of a foreign country can affect the operation of foreign subsidiaries, or the transfer of payments. For example, a foreign government may increase the rate of taxation on profits, impose exchange control restrictions or impose restrictions of imports into or exports from the country. In an extreme case, there may be a risk that the government will nationalise businesses owned by foreign companies.

(c) Management control risks. The geographical separation of a parent company from its foreign subsidiaries adds to the problems of management control.

4.2 Foreign exchange risks

When a company makes a foreign investment, it incurs costs and receives income in different currencies. Most exchange rates between currencies change. They move up and down in both the short term and the longer term. Currency movements affect profitability and returns. Foreign exchange risk is the risk that unexpected changes will occur in the value of a currency or in the exchange rate between two currencies.

Example

A Singapore company invests in Country A where the currency is the donar, by acquiring ownership of a subsidiary company. Each year the foreign subsidiary pays dividends in donars to the Singapore parent, which exchanges the donars into Singapore dollars. The current exchange rate is 2 donars to one Singapore dollar and the dividend payment in the current year is one million donars. Dividends in future years are expected to be the same amount.

- At the current rate of exchange, the dividends provide the parent company with revenue of S$500,000.
- However, if the donar falls in value against the dollar, say to 2.5 donars = S$1, the value of annual dividend receipts in dollars would fall to S$400,000.
On the other hand, if the donor increased in value against the dollar, say to 1.5 donars = S$1, the annual revenue for the parent company would increase to S$66,666.7.

Key Point

- Returns from a foreign investment, when converted into domestic currency, are affected by changes in the exchange rate between the currencies of the investing company and the subsidiary or joint venture. Exchange rate movements may be adverse or favourable.
- Movements in exchange rates may affect the financial viability of a foreign investment.
- When making a decision whether or not to make a foreign investment, the expected changes in exchange rate over time should be considered and taken into account in the financial evaluation of the investment.

Some exchange rates have been stable over a fairly long period of time. For example, the Hong Kong dollar has maintained a stable exchange value against the US dollar of about HK$7.80 = US$1. On the other hand, the foreign exchange value of other currencies such as the Japanese yen and British pound have changed by large amounts within relatively short periods of time.

4.3 Transaction risk, translation risk and economic risk

Foreign exchange risk can be classified into three types.

(a) **Transaction risk** is the foreign exchange risk in individual business transactions or trading transactions. It is a short-term risk.

For example, a Singapore company may sell goods to a customer in Australia at a price of 150,000 Australian dollars, payable three months after delivery. In the period between the sale agreement and the payment date, which is three months or possibly longer, the Australian dollar may fall in value against the Singapore dollar. Suppose its value fell from A$0.80 = S$1 to A$0.8333 = S$1. This would mean that when the sale was agreed the Singapore company would have expected to earn S$187,500 from the transaction (= 150,000/0.80), but when payment is actually received, earnings in Singapore dollars would be just S$180,000 (= 150,000/0.8333).

Transaction risk involves individual business transactions and so is short-term in nature. It is therefore not relevant to financial appraisal of long-term foreign investments.

(b) **Translation risk** is a risk that relates to financial reporting and consolidated accounts. The net assets of a foreign subsidiary will change in value in the reporting currency of the parent company due to changes in the exchange rate. Translation risk may affect share price (as it affects reported earnings) and may cause a company to technically default on some loans if some loan covenants are expressed as financial ratios. However as a general rule translation risk should not be a significant concern for investment decisions.

(c) **Economic risk** is the risk of changes in an exchange rate over the long term, due to different economic circumstances in the two countries. It is a long-term risk and can be important for appraisal of foreign investments.

When Country A has a weaker economy than Country B, Country A’s currency will fall in value over time against the currency of Country B.

For the purpose of investment appraisal, applying Interest Rate Parity (IRP) theory, a currency of Country A is weaker than a currency of Country B in either of the following situations.
• When the rate of inflation in higher in Country A than in Country B so that prices are rising faster in Country A and more slowly in Country B.
• When interest rates are higher in Country A than in Country B.

Economic risk should be taken into consideration when evaluating a proposed investment in a foreign country. To do this, it is necessary to make estimates of what the exchange rate between the two currencies will be, for each year of the planned investment. The estimated exchange rate should then be applied to the foreign currency cash flows, to convert them into cash flows in the investing company’s own currency.

4.4 Making a forecast of future exchange rates

Cash flows in a foreign currency are converted to domestic currency for the purpose of international investment appraisal, but there is no reliable method of forecasting what exchange rates will be in the future. Even so, forecasts of exchange rates are needed, no matter how inexact or uncertain they may be. We can make exchange rate forecasts in one of two ways:

• The purchasing power parity method
• The interest rate parity method

4.4.1 Purchasing power parity method

This method is based on the assumption that the exchange rate between two currencies will change each year with the differing rates of inflation in their two countries. The currency of the country with a higher rate of inflation will weaken against the currency of the country with lower inflation (due to economic risk factors).

Estimates should be made of the expected rate of inflation in each country each year over the full term of the investment. The formula for calculating the exchange rate in each year is:

\[ \text{Future exchange rate } \text{A$/B$} = \text{Current exchange rate } \text{A$/B$} \times \frac{(1 + \text{country A inflation rate})^n}{(1 + \text{country B inflation rate})^n} \]

Notes
1. Exchange rate A$/B$ means the exchange rate in terms of the number of units of Currency A$ (the variable currency) in exchange for one unit of currency B$ (the base currency).
2. \( n \) = the number of years ahead for which the future exchange rate is being estimated

Example: forecasting exchange rates

The Singapore$/US dollar exchange rate in January Year 1 was S$1.2300/US$1. The expected rate of inflation in the next three years is 2.5% in the US and 1.4% in Singapore.

Required
(a) Make a forecast of the exchange rate in January of Years 2, 3 and 4.
(b) Make a forecast of the exchange rate in January Year 5 if the rate of inflation in Year 4 is expected to be 1% in the USA and 3% in Singapore.

Calculate exchange rates to 4 decimal places.
Solution

(a) January Year 2: \(1.2300 \times 1.014/1.025 = 1.2168\)
   January Year 3: \(1.2300 \times (1.014/1.025)^2 = 1.2037\)
   January Year 4: \(1.2300 \times (1.014/1.025)^3 = 1.1908\)

(b) January Year 5: \(1.1908 \times (1.03/1.01) = 1.2144\)

These exchange rates can be used to convert cash flows in the foreign currency into the currency of the investing company, for the purpose of international investment appraisal.

Question 6.3

Purchasing power parity

The exchange rate in December Year 0 between the Singapore dollar and the Turkey lira was S$/L1.4500 (that is, S$1 = L1.4500). Inflation in Singapore is expected to be 2% in Years 1 and 2 and 2.5% in Year 3. Inflation in Turkey is expected to be 5% in Year 1 and 6% in Years 2 and 3.

Required

Forecast the exchange rate in December of each of the next three years, Years 1 – 3.

4.4.2 Interest rate parity method

The interest rate parity method is a less common method of forecasting exchange rates. It is based on the assumption that changes in an exchange rate are caused by differences in interest rates between the two currencies. The formula for estimating an exchange rate is similar to the purchasing power parity formula, except that estimated nominal interest rates are used instead of estimated inflation rates. (Note: The term 'nominal' rate is used to show that 'real' interest rates should not be used. Real rates are nominal rates less the rate of inflation, and so represent the rate of interest 'in real terms'.)

Interest rate parity

Future spot rate \(\frac{A$}{B$} = \frac{(1 + \text{country A interest rate})^n}{(1 + \text{country B interest rate})^n}\)

So if the current spot exchange rate between the Singapore dollar and the US dollar is S$1.2500/US$1 and the annual interest rate is 3% in Singapore and 5% in the USA the estimated spot exchange rate in one year’s time will be \(1.2500 \div (1.03)/(1.05) = S$1.2262\). The Singapore dollar is predicted to appreciate in value against the US dollar because its interest rate is lower.

4.4.3 Appreciating or depreciating currencies

In an examination question, you may be given an exchange rate and told that one of the currencies is appreciating (increasing) or depreciating (falling) in value against the other each year. You will then be required to forecast future exchange rates by applying the rate of appreciation or depreciation to the current exchange rate.

To make a forecast of exchange rates in this way, it is important to decide whether the exchange rate will ‘go up’ or ‘go down’. In other words, if the current exchange rate between Currency A and Currency B is 2.5000 and Currency A is depreciating in value against Currency B by 5% each year, what will be the exchange rate after one year, \((2.5000 \times 1.05)\) or \((2.5000/1.05)\)?

The answer is that it depends on which currency is the base currency and which is the variable currency. Remember that the base currency is the currency with a value of 1 in the exchange rate, so the exchange rate is quoted as a number of units of the variable currency for 1 unit of the base currency. So if an exchange rate is quoted as S$1.2500 = US$1, S$ is the variable currency and US$ is the base currency.
If A is the variable currency and B is the base currency, and the exchange rate goes up, this means that the variable currency is depreciating in value against the base currency over time: this will happen if the rate of inflation is higher for currency A or the rate of interest is higher for currency A.

Current exchange rate = R
Rate of appreciation = a
Rate of depreciation = d

<table>
<thead>
<tr>
<th>Forecast exchange rate after 1 year</th>
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<tbody>
<tr>
<td>A is appreciating by 4% each year against currency B: a = 0.04</td>
</tr>
<tr>
<td>A is depreciating by 3% each year against currency B: d = 0.03</td>
</tr>
<tr>
<td>B is appreciating by 5% each year against currency A: a = 0.05</td>
</tr>
<tr>
<td>B is depreciating by 2% each year against currency A: d = 0.02</td>
</tr>
</tbody>
</table>

**Example**

The exchange rate between the US dollar (USD) and British pound (GBP) is USD1.5400/GBP1. Consider the following separate situations.

(a) Suppose you are told that the US dollar will appreciate against the British pound by 4% each year for the next two years.

GBP is the base currency

<table>
<thead>
<tr>
<th>Year</th>
<th>Exchange rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$1.5400</td>
</tr>
<tr>
<td>1</td>
<td>$1.5400/1.04 = $1.4808</td>
</tr>
<tr>
<td>2</td>
<td>$1.4808/1.04 = $1.4238</td>
</tr>
</tbody>
</table>

(b) You are now told that the British pound will appreciate against the US dollar by 2% each year for the next two years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Exchange rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$1.5400</td>
</tr>
<tr>
<td>1</td>
<td>$1.5400 × 1.02 = $1.5708</td>
</tr>
<tr>
<td>2</td>
<td>$1.5708 × 1.02 = $1.6022</td>
</tr>
</tbody>
</table>

**4.5 Risk and the cost of capital**

Since international investments are usually more risky than domestic investments, a company should expect a higher return on its foreign investments than on its domestic investments. The higher required return would compensate for the higher risk. (Higher risk means a bigger probability that things will go wrong and returns will be less than expected. An investor should look for a higher return, to offset the possibility of disappointment.)

When a company looks for a higher return on its foreign investments, to allow for the higher risk, this means that the cost of capital used for a financial evaluation of proposed new foreign investments should be higher than the cost of capital for evaluating domestic investments.
SECTION SUMMARY

- Risks are higher with foreign investments than with investments in the domestic economy.
- A significant additional risk is foreign exchange risk (economic risk) and the probability of changes in the exchange rate between the currency of investment and the investing company's domestic currency.
- The currency of a country with a weaker economy will depreciate in value over time against the currency of a country with a stronger economy.
- For purposes of international investment appraisal, it is usually necessary to make forecasts of future exchange rates over the full period of the investment. There are different methods of making forecasts.
- Since a foreign investment has a higher risk, the required rate of return should be higher than for a similar investment in the domestic economy.

5 International investment appraisal

SECTION INTRODUCTION

Proposals to make a foreign direct investment should be evaluated using a Discounted Cash Flow method, usually the Net Present Value method. The approach is exactly the same as for 'domestic' investment appraisal, except that the calculation of cash flows may require estimates of tax cash flows as well as future rates of exchange between currencies.

IMPORTANT

This chapter assumes that you are already familiar with Discounted Cash Flow and the Net Present Value method of investment appraisal. You should use another textbook or study material to revise this topic if you are not confident about your knowledge and understanding of it.

5.1 A basic approach to foreign investment appraisal

There are different methods of making a financial appraisal of a proposed foreign direct investment. The basic method, which should be used where possible, is to:

1. Estimate the cash flows for each year of the project, for the project itself. With the exception of the initial cost of the investment, which may be in the currency of the 'parent' or investing company, the cash flows will probably all be in the currency of the foreign country. If you are given a rate of inflation for the foreign country, apply this to estimate the future cash flows in the foreign currency. The cash flows for the project should include tax payable in the foreign country.

2. Prepare a forecast of the exchange rate as at the end of each year of the project. The current exchange rate is the exchange rate for Year 0.

3. Next, convert the cash flows from the foreign currency into the currency of the 'parent' or investing company, using the estimated exchange rate for that year. Remember that with DCF it is usually assumed that cash flows occur at the end of the period/year. This is why end-of-year exchange rates are used to convert the foreign cash flows into the parent company's currency. (If you use mid-year cash flows, instead of end-of-year cash flows, you will need to allow for movements in
the exchange rate and inflation in cash flows to the middle of each year. The calculations could get complex for the time available in the exam.)

4 Next, calculate the net cash flows that will be paid out or received each year by the parent/investing company. These will be in the currency of the parent/investing company. The cash flows should allow for items such as:

- Additional taxation, if any, payable by the company in its own country
- Retention of dividends by the foreign subsidiary or joint venture. The relevant cash flow should be the dividends (or other payments, such as management charges) received by the parent/investing company
- Any exchange control regulations limiting the payment of dividends by the foreign subsidiary/joint venture

5 Having calculated the net cash flows that will be paid or received each year by the parent/investing company, discount these at the appropriate cost of capital and calculate the Net Present Value. In the examination you will be given this cost of capital (discount rate), or you will be given information that you should use to calculate the cost of capital.

Point to note: Under FRS 36 Impairment of Assets, paragraph 54 states that ‘Future cash flows are estimated in the currency in which they will be generated, and then discounted using a discount rate appropriate for that currency. An entity translates the present value using the spot exchange rate at the date of the value in use calculation.’ This is illustrated in the example in section 5.2 below.

**Example: foreign investment appraisal**

STBN, a Singapore company, is considering undertaking a new project in a foreign country Koravia. The local currency in Koravia is the korona (K). The investment will require initial capital expenditure of K12.50 million on equipment. This will have a zero disposal value at the end of the five year life of the project. There will also be an initial working capital requirement of K5 million, which will be recovered at the end of the project. At current price levels, the net cash inflows from the investment will be K8 million in each year from the project. The annual rate of inflation in Koravia is expected to be 5% for each of the next five years; however you should assume that inflation will not affect the amount of the investment in working capital. All profits after tax in each year will be remitted to STBN in Singapore. The rate of tax on company profits in Koravia is 30%. Depreciation of capital equipment on a straight-line basis is an allowable deduction for tax purposes. Koravia tax is paid in the middle of the year following the year in which the taxable profits arise.

There is a double taxation agreement between Singapore and Koravia, which means that no tax will be payable in Singapore on the profits of the project.

The current ‘spot’ exchange rate is S$/K3.3600 (that is, S$1 = K3.3600), and the korona is expected to depreciate against the Singapore dollar by 3% per year.

An after-tax discount rate of 16% should be used to calculate the Net Present Value of the project.

**Required**

What is the estimated Net Present Value of the project and should it be undertaken?
Solution

The estimated cash flows of the project itself are as follows. The inflation rate is 5%. Cash flows are calculated here in K millions, to two decimal places.

<table>
<thead>
<tr>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Km</td>
<td>Km</td>
<td>Km</td>
<td>Km</td>
<td>Km</td>
<td>Km</td>
<td>Km</td>
</tr>
<tr>
<td>Equipment</td>
<td>(12.50)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working capital</td>
<td>(5.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cash inflows</td>
<td>8.40</td>
<td>8.82</td>
<td>9.26</td>
<td>9.72</td>
<td>10.21</td>
<td></td>
</tr>
<tr>
<td>Taxation (W1)</td>
<td>(1.77)</td>
<td>(1.90)</td>
<td>(2.03)</td>
<td>(2.17)</td>
<td>(2.31)</td>
<td></td>
</tr>
<tr>
<td>Cash flow in K millions</td>
<td>(17.50)</td>
<td>8.40</td>
<td>7.05</td>
<td>7.36</td>
<td>7.69</td>
<td>13.04</td>
</tr>
</tbody>
</table>

The forecast exchange rate each year is as follows

<table>
<thead>
<tr>
<th>K depreciates by 3% each year</th>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
</table>

It is assumed that all cash flows after tax are remitted each year to Singapore where no further tax is payable. In Year 6, STBN will provide cash to pay the final amount of tax. It is also assumed that cash flows after Year 0 will occur at an even rate throughout the year, so mid-year discount factors will be applied.

The NPV of the project is calculated as follows.

<table>
<thead>
<tr>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flow in K millions</td>
<td>(17.50)</td>
<td>8.40</td>
<td>7.05</td>
<td>7.36</td>
<td>7.69</td>
<td>13.04</td>
</tr>
<tr>
<td>Cash flow in S$ millions</td>
<td>(5.21)</td>
<td>2.43</td>
<td>1.98</td>
<td>2.00</td>
<td>2.03</td>
<td>3.35</td>
</tr>
<tr>
<td>Discount factor at 16% (mid-year)</td>
<td>1.00</td>
<td>0.928</td>
<td>0.800</td>
<td>0.690</td>
<td>0.595</td>
<td>0.513</td>
</tr>
<tr>
<td>Present value S$m</td>
<td>(5.21)</td>
<td>2.26</td>
<td>1.58</td>
<td>1.38</td>
<td>1.21</td>
<td>1.72</td>
</tr>
<tr>
<td><strong>NPV = + S$2.68 million</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The project has a positive NPV, and ignoring factors such as risk and uncertainty in the cash flows, the project should be undertaken.

Workings

1. Taxation

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash inflows</td>
<td>8.40</td>
<td>8.82</td>
<td>9.26</td>
<td>9.72</td>
</tr>
<tr>
<td>Tax allowable depreciation (12.5/5)</td>
<td>2.50</td>
<td>2.50</td>
<td>2.50</td>
<td>2.50</td>
</tr>
<tr>
<td>Taxable profit</td>
<td>5.90</td>
<td>6.32</td>
<td>6.76</td>
<td>7.22</td>
</tr>
<tr>
<td>Tax at 30%</td>
<td>1.77</td>
<td>1.90</td>
<td>2.03</td>
<td>2.17</td>
</tr>
<tr>
<td>Tax is payable 12 months in arrears.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.2 An alternative method for foreign investment appraisal

When all the cash flows for a project are in the foreign currency, another method of calculating the NPV is to discount the foreign currency cash flows at an adjusted discount rate, and then convert the resulting NPV at the current spot rate. As noted above, FRS 36 paragraph 54 states that 'future cash flows are estimated in the currency in which they will be generated and then discounted using a discount rate appropriate for that currency. An entity translates the present value using the spot exchange rate at the date of the value in use calculation.'
This method should give exactly the same NPV as the previous method, except perhaps for small rounding differences.

The adjusted discount rate that should be used for discounting the foreign currency cash flows is:

\[
\text{Adjusted discount rate to use in international investment appraisal (International Fisher effect)}
\]

\[
1 + \text{annual discount rate } B$ = \frac{\text{Future spot rate } A$/B$ \text{ in 12 months' time}}{1 + \text{annual discount rate } A$}
\]

B is the variable currency and A is the base currency.

### Example

Taking the previous example of STBN, the adjusted cost of capital for evaluating the project is calculated as follows. The letter r represents the adjusted discount rate. The spot rate in 12 months' time was calculated in the previous solution.

\[
\frac{(1 + r)}{(1.16)} = \frac{3.4608}{3.3600}
\]

\[
(1 + r) = (3.4608 \times 1.16)/3.3600 = 1.1948
\]

\[
r = 0.1948 \text{ or } 19.48\%
\]

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/(1.1948)</td>
<td>1/(1.1948)^1.5</td>
<td>1/(1.1948)^2.5</td>
<td>1/(1.1948)^3.5</td>
<td>1/(1.1948)^4.5</td>
<td>1/(1.1948)^5.5</td>
</tr>
<tr>
<td>Discount factor at 19.48%</td>
<td>0.915</td>
<td>0.766</td>
<td>0.641</td>
<td>0.536</td>
<td>0.449</td>
</tr>
</tbody>
</table>

The NPV is calculated as follows.

<table>
<thead>
<tr>
<th>Cash flow in K millions</th>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>(17.50)</td>
<td>8.40</td>
<td>7.05</td>
<td>7.36</td>
<td>7.69</td>
<td>13.04</td>
<td>(2.31)</td>
<td></td>
</tr>
<tr>
<td>Discount factor at 19.48% (mid-year)</td>
<td>1.000</td>
<td>0.915</td>
<td>0.766</td>
<td>0.641</td>
<td>0.536</td>
<td>0.449</td>
<td>0.376</td>
</tr>
<tr>
<td>Present value K millions</td>
<td>(17.50)</td>
<td>7.69</td>
<td>5.40</td>
<td>4.72</td>
<td>4.12</td>
<td>5.85</td>
<td>(0.87)</td>
</tr>
</tbody>
</table>

\[
\text{NPV} = + K9.41 \text{ million}
\]

This NPV is then converted at the current spot rate of 3.3600:

\[
\text{NPV} = + $2.80 \text{ million}
\]

This differs from the $2.68 million calculated above due to rounding differences in the calculations.

### Question 6.4

**Foreign investment**

ABC Corporation, a US company, is considering whether to establish a foreign subsidiary in the country of Taxa at a cost of 2,400,000 Taxan pounds (T£2,400,000). This would be represented by non-current assets of T£2,000,000 and working capital of T£400,000. The subsidiary would make a product that would achieve annual sales of T£1,600,000 and incur cash expenditures of T£1,000,000 a year.

ABC Corporation has a planning horizon of four years, at the end of which it expects the realisable value of the subsidiary's non-current assets to be T£800,000. It expects also to be able to sell the rights to make the product for T£500,000 at the end of four years. It is the company's policy to remit the maximum funds possible to the parent company at the end of each year.

Tax is payable at the rate of 35% in Taxa and is payable one year in arrears. Tax allowable depreciation is at a rate of 25% on a straight line basis on all non-current assets.
Annual administration costs of $100,000 will be incurred each year by ABC in the USA over the expected life of the project.

The rate of taxation in the USA on company profits is 30%, payable one year in arrears. There is no double taxation agreement between the USA and Taxa, and profits made by ABC’s subsidiary in Taxa and remitted to the USA are also taxable at a rate of 30%.

The exchange rate is US$/T£5,000 (that is, US$1 = T£5). This is not expected to change over the life of the project. The company’s cost of capital for the project is 10%.

Calculate the NPV of the project.

5.3 Exchange controls

Exchange controls may restrict the ability of a parent/investing company to pay out all the after-tax profits of a foreign subsidiary as dividends each year. When this happens, the cash flows for the project should be adjusted to allow for the restrictions.

It may be assumed that the exchange controls will not be kept in place for ever, and an assumption may therefore be that the exchange controls will be lifted at the end of the life of the project. Profits retained in the foreign investment because of the exchange controls will then be paid out in full as dividends.

Example

An international company is considering whether to make an investment in Alimba, a foreign country, by purchasing an Alimban company. The estimated after-tax cash flows from the project (all in pesos) have been estimated as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>000 pesos</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(4,000)</td>
</tr>
<tr>
<td>1</td>
<td>1,600</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
</tr>
<tr>
<td>3</td>
<td>2,400</td>
</tr>
<tr>
<td>4</td>
<td>1,500</td>
</tr>
</tbody>
</table>

Taxation is ignored in this example, to keep the example simple. The cost of capital for this project is 17%. The domestic currency of the international company is the dollar.

The government of Alimba has announced exchange controls on payments by local companies to foreign parent companies. In the first year, there will be a total ban on dividend payments. In the second and third years, companies will be allowed to pay up to 75% of their after-tax profits in dividends to foreign companies. From Year 4 onwards the exchange controls will be lifted and there will be no restrictions on foreign payments.

The exchange rate is expected to be as follows, at the end of each year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Forecast rate (pesos to $1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5.0</td>
</tr>
<tr>
<td>1</td>
<td>5.2</td>
</tr>
<tr>
<td>2</td>
<td>5.4</td>
</tr>
<tr>
<td>3</td>
<td>5.7</td>
</tr>
<tr>
<td>4</td>
<td>6.0</td>
</tr>
</tbody>
</table>
Required

(a) Calculate the NPV of the project if no exchange controls were in place and the foreign subsidiary remits all available profits as dividends to the parent company at the end of each year.

(b) Calculate the NPV of the project allowing for the exchange controls, assuming that the foreign subsidiary remits the maximum amount permitted in dividends to the parent company at the end of each year.

Solution

(a) If there are no exchange controls

<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign currency cash flow 000 pesos</th>
<th>Exchange rate</th>
<th>Cash flow in parent company currency $000</th>
<th>Discount rate 17%</th>
<th>Present Value $000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(4,000)</td>
<td>5.0</td>
<td>(800.0)</td>
<td>1.000</td>
<td>(800.0)</td>
</tr>
<tr>
<td>1</td>
<td>1,600</td>
<td>5.2</td>
<td>307.7</td>
<td>0.855</td>
<td>263.1</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
<td>5.4</td>
<td>370.4</td>
<td>0.731</td>
<td>270.8</td>
</tr>
<tr>
<td>3</td>
<td>2,400</td>
<td>5.7</td>
<td>421.1</td>
<td>0.624</td>
<td>262.8</td>
</tr>
<tr>
<td>4</td>
<td>1,500</td>
<td>6.0</td>
<td>250.0</td>
<td>0.534</td>
<td>133.5</td>
</tr>
</tbody>
</table>

NPV + 130.2

End-of-year discount factors are used because remittances of dividends will be paid at the end of each year.

(b) Allowing for the exchange controls

<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign currency profits 000 pesos</th>
<th>Remitted to the parent 000 pesos</th>
<th>Exchange rate</th>
<th>Cash flow in parent company currency $000</th>
<th>Discount factor at 17%</th>
<th>PV $000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>(4,000)</td>
<td>0</td>
<td>5.0</td>
<td>(800.0)</td>
<td>1.000</td>
<td>(800.0)</td>
</tr>
<tr>
<td>1</td>
<td>1,600</td>
<td>0</td>
<td>5.2</td>
<td>0</td>
<td>0.855</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
<td>1,500</td>
<td>5.4</td>
<td>277.8</td>
<td>0.731</td>
<td>203.1</td>
</tr>
<tr>
<td>3</td>
<td>2,400</td>
<td>1,800</td>
<td>5.7</td>
<td>315.8</td>
<td>0.624</td>
<td>197.1</td>
</tr>
<tr>
<td>4</td>
<td>1,500</td>
<td>4,200 *</td>
<td>6.0</td>
<td>700.0</td>
<td>0.534</td>
<td>373.8</td>
</tr>
</tbody>
</table>

NPV (26.0)

* = 1,600 + (2,000 – 1,500) + (2,400 – 1,800) + 1,500

Because of the exchange controls, a project that would otherwise be a worthwhile investment should not be undertaken.

5.3.1 Strategies for dealing with exchange controls

When a company is faced with the problem of exchange controls in a foreign country where it is planning to invest, or where it already has an investment, it should consider whether there are lawful ways of reducing the scale of the problem.

Any strategies for reducing the impact of exchange controls must be within the law of the foreign country.

Some possible strategies are:

(a) The exchange control restrictions may be limited to certain types of payment, such as payments of dividends to shareholders outside the country. There may not be any restrictions on, for example, payments of management charges or royalties.
Similarly, where the foreign subsidiary buys goods from the parent company, there may not be exchange control restrictions on payments for goods imported into the country. The parent company could possibly increase its transfer prices, in order to increase payments from the foreign subsidiary.

The foreign country may supply raw materials or other assets that the parent company uses elsewhere in the group. It may therefore be possible to arrange for the foreign subsidiary to buy quantities of these materials and re-sell them to the parent company on credit. The parent company would incur a liability but might not be required to make payment.

Allowable strategies will depend on the regulations that are in force.

5.4 Taxation and international investment appraisal

An examination question that includes taxation cash flows will usually ask you to assume that it is the policy of the investing company to remit all the after-tax profits of a foreign subsidiary to the investing company's country. (An exception may be a restriction on payments of dividends because of exchange control regulations.)

The main problems with taxation are therefore likely to be:

(a) Calculating the tax allowable depreciation on the investment, reducing the amount of tax payable in the foreign country

(b) Taxation on the profits of the foreign subsidiary or joint venture in the country of the investing company

The same profits may be taxed twice, once in the foreign country and a second time in the investing company's country. However if there is a double taxation agreement between the two countries, the general rule is that:

(a) If the rate of tax on profits is higher in the country where the investment will be made than in the country of the parent/investing company, no further tax will be payable in the country of the parent/investing company.

(b) If the rate of tax on profits is lower in the country where the investment will be made than in the country of the parent/investing company, additional tax will be payable in the country of the parent/investing company. The amount payable as a percentage of profits will be the difference in the rates of taxation in the two countries.

Example

A Singapore company is considering whether to make an investment in another country. The rate of tax on profits is 10% in that country and 17% in Singapore. There is a double taxation agreement between the two countries. If the Singapore company makes the foreign investment, all the after-tax profits will be remitted to Singapore each year.

To calculate the tax cash flows for the proposed project, the profits will be taxed at 10% in the foreign country and at a further 7% (17% – 10%) in Singapore. Profits may be payable in the same year that the profits are earned or remittances received, or one year in arrears, so you need to read an examination question carefully to establish the timing of the tax payments in each country.

Example

MNB Company is a UK company. It is considering whether to invest in a new start-up business operation in the country of Pravia. The investment would cost 1,200,000 Pravian dollars (P$1,200,000) and
would have an expected life of four years and no disposal value at the end of this time. A further investment in working capital of P$200,000 would be required.

At today's prices, annual profits before depreciation from the business venture are expected to be P$500,000. The equipment cost would attract tax-allowable depreciation at 25% of cost each year on a straight line basis.

The rate of taxation on profits in Pravia is 15%, payable in the same year that the profits arise. The rate of tax in the UK on profits earned in Pravia and remitted to the UK is 20%, but there is a double taxation agreement between Pravia and the UK. It is the MNB Company's policy to remit 100% of post-tax profits of foreign subsidiaries to the UK, at the end of each year. Tax in the UK is payable in the same year as the tax liability arises.

The expected annual rate of inflation in Pravia in expected to be 4% for the next four years. In the UK the expected annual rate of inflation for the same period is expected to be 6%. The current exchange rate is £/P$1.5000 (in other words £1 = P$1.5000). The cost of capital for this project is 15%.

Required

Calculate the NPV of the project and advise whether it should be undertaken.

**Solution**

The rate of taxation is higher in the UK at 20%. As there is a double taxation agreement in place, the additional tax payable on profits earned in Pravia will be 5%. Since tax in both countries is payable in the same year as the tax liability arises, a single tax rate of 20% can be applied to taxable profits from the project. (This avoids the need to calculate tax in Pravia at 15% and then a further 5% in the UK, since both amounts are payable in the same year.)

End-of-year discount factors are used because dividends will be remitted to MNB at the end of each year; therefore mid-year discount factors (which assume regular cash flows throughout the year) would be inappropriate here.

<table>
<thead>
<tr>
<th>Year</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flows in P$000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profits before tax allowable depreciation (inflation 4% per year)</td>
<td>520.0</td>
<td>540.8</td>
<td>562.4</td>
<td>584.9</td>
<td></td>
</tr>
<tr>
<td>Tax allowable depreciation (brought in to calculate taxable profit)</td>
<td>(300.0)</td>
<td>(300.0)</td>
<td>(300.0)</td>
<td>(300.0)</td>
<td></td>
</tr>
<tr>
<td>Taxable profit in P$000</td>
<td>220.0</td>
<td>240.8</td>
<td>262.4</td>
<td>284.9</td>
<td></td>
</tr>
<tr>
<td>Taxation in Pravia and UK (20% total)</td>
<td>(44.0)</td>
<td>(48.2)</td>
<td>(52.5)</td>
<td>(57.0)</td>
<td></td>
</tr>
<tr>
<td>Add back tax allowable depreciation (as not a cash flow)</td>
<td>300.0</td>
<td>300.0</td>
<td>300.0</td>
<td>300.0</td>
<td></td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>(1,200)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working capital</td>
<td>(200)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forecast exchange rate (× 1.04/1.06) each year</td>
<td>1.5000</td>
<td>1.4717</td>
<td>1.4439</td>
<td>1.4167</td>
<td>1.3900</td>
</tr>
<tr>
<td>Cash flows in £000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From/(To) Pravia</td>
<td>(933.3)</td>
<td>323.4</td>
<td>341.2</td>
<td>359.9</td>
<td>523.7</td>
</tr>
<tr>
<td>Discount factor at 15%</td>
<td>1.000</td>
<td>0.870</td>
<td>0.756</td>
<td>0.658</td>
<td>0.572</td>
</tr>
<tr>
<td>Present value</td>
<td>(933.3)</td>
<td>281.4</td>
<td>257.9</td>
<td>236.8</td>
<td>299.6</td>
</tr>
<tr>
<td><strong>NPV in £000 = + 142.4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The NPV is positive and, on the basis of the financial analysis, the investment should be undertaken.
SECTION SUMMARY

Proposed foreign direct investments should be evaluated using Discounted Cash Flow. The relevant cash flows are the cash flows in the country of the parent/investing company. It is usually assumed, unless there are exchange controls, that all the after-tax profits of the foreign subsidiary or joint venture will be remitted each year to the country of the parent/investing company.

The basic rules and methodology of DCF appraisal are applied, but estimates of cash flows may involve inflation in the foreign country, forecasting exchange rates each year over the life of the project, a need to take care when calculating tax cash flows and, possibly, exchange control regulations.

6 International capital markets

SECTION INTRODUCTION

When a company is planning to make a foreign direct investment, it may need to raise new capital to make the investment. In many cases, new capital will be obtained in the country of the parent/investing company. Occasionally however, an investing company may be able to raise new capital in the international capital markets.

6.1 Raising new capital for a foreign investment in the currency of the investment

When a company is planning to make a foreign direct investment, it needs capital to pay for the investment. The capital may come from the retained profits of the investing company, where the company has sufficient cash. Alternatively, the investing company may obtain new funds in its own country, by means of a bank loan or possibly by issuing new shares or bonds.

Another possible source of finance may be a bank loan in the currency of the foreign investment. This method of financing would enable the investing company to match the currency of financing with the currency of the investment. It would also mean that interest on the borrowed capital could be paid from the profits of the foreign investment, so there would be matching of income and expenditure in the same currency.

Where this is possible, the foreign exchange risk (economic risk) is reduced. The risk from possible changes in the exchange rate over time would only apply to the surplus profits from the investment after paying the loan interest.

6.1.1 Ability to borrow in the currency of a foreign investment

The ability of a company to borrow in the currency of an international investment depends on:

- Whether there is a large and active local capital market or large banking sector, and
- If there is a large capital market for the foreign currency, whether the company is able to borrow in that market.

A company that already has a business operation in the foreign country should consider this method of financing new investments in the country. It may have a successful ‘track record’ of doing business in the country, which might persuade a bank to lend money for a new investment.
6.2 International equity markets

A very large company may be able to raise capital in the international equity markets. This means raising capital by issuing shares that will be purchased by international investors, such as US and European investment institutions.

The company would have to issue shares in a well-established stock market that is used by international investors for buying shares. For example, a Singapore company that is listed on the Singapore Exchange (SGX) may be able to issue new shares that will be traded on SGX but that will be purchased by international investors. Alternatively, a Singapore company may decide to seek a listing on a foreign stock market, such as NASDAQ or the New York Stock Exchange, and issue shares on that foreign exchange.

(If a Singapore company issues shares in the USA, they would be sold to investors in the form of American Depositary Receipts or ADRs. These are denominated in US dollars. ADRs would be backed by a quantity of the Singapore company’s shares.)

6.3 International bond markets

International companies may be able to obtain capital for investment by issuing bonds:

- In the international bond markets, or
- In a domestic bond market such as the USA, where there is a large domestic bond market for corporate bonds.

The international bond markets are markets where large international companies are able to issue bonds which are sold to investors globally. Bonds issued in this market can be denominated in any major currency that international investors are willing to accept for investment, but the most commonly used currencies for international bonds are US dollars, euros and yen.

Although international corporate bonds are usually listed on an exchange, they are traded outside stock exchanges, by telephone or through electronic trading platforms. When the bonds are issued, they are sold by banks in different countries to investment institutions in different countries. (After issue, a second-hand market in the bonds is provided by some investment banks.)

6.3.1 Raising finance in the international bond markets

The ability of companies to raise debt capital by issuing bonds varies between countries as well as between different types of company.

(a) When there is a large domestic bond market, it is easier for smaller companies to issue bonds, because investors in those markets are more willing to consider investing in smaller companies.

(b) It may be possible for a foreign company to issue bonds in the domestic bond market of another country. For example, non-US companies may be able to issue bonds in the US market. However, foreign issuers need to be aware of the regulations in the bond market, and they need to persuade investors in the market to buy their bonds. Investors may be reluctant to buy bonds of foreign companies that they do not recognise.

(c) As a general rule only large internationally-recognised companies are able to raise capital by issuing bonds in the international bond markets.

If you are asked in your examination about raising debt capital for a foreign investment, you should consider the possibility of using a foreign subsidiary to issue bonds in the country concerned. For example, it might be possible for a company wanting to invest in China to issue bonds in the Hong Kong or Chinese bond markets. Such a strategy may be possible, but this will depend on the size and nature of the domestic bond market concerned. You cannot be expected to know the current status of bond markets in every financial centre in the world, but you should be aware in general terms that a possibility of borrowing in other financial centres might exist.
(Note: Bond issues are normally for large amounts of capital. Companies wanting smaller amounts of debt capital are much more likely to try to obtain a bank loan.)

**IMPORTANT**

Companies wishing to raise capital in the international equity or bond markets may be restricted in their choice of currency. If a company is raising capital to finance a new foreign investment, it may not be possible to issue shares or bonds in the currency of the planned foreign investment.

6.3.2 The potential benefits of raising capital in the international markets

When companies raise new capital they should try to do so as cheaply as possible.

Issuing shares in the international equity markets or bonds in the international bond markets can be expensive, with large fees payable to investment banks for advising on the issue and then marketing and selling the shares or bonds. A company using these markets should make a large issue of securities, in order to spread these transaction costs.

However, the international markets also provide a company with access to major international investors who are willing to invest in the company's securities. It may be possible to obtain a better price for shares or bonds in the international markets than in the company's domestic capital markets.

**SECTION SUMMARY**

A company planning a foreign direct investment may need to raise capital to pay for the investment. If it can raise capital in the same currency as the planned investment, this will enable it to reduce its exposure to foreign exchange risk in the investment.

It may also be possible to raise capital by issuing shares in the international equity market or by issuing bonds in either the international bond markets or a large domestic bond market in another country.
Quick Quiz

1. What are the fundamental ideas behind the principle of comparative advantage?
2. If a company invests in a foreign subsidiary, by what methods may the company ensure that cash flows generated by the subsidiary are remitted to the country of the parent company?
3. What is economic risk with regard to foreign exchange?
4. What is a double taxation agreement?
5. How should the domestic discount rate be adjusted if the foreign project cash flows are to be discounted?
6. What is the most common currency of denomination for international bonds?
Answers to Quick Quiz

1. Specialising in the production of goods where advantage is greatest, as the opportunity cost of that production is lowest.

2. Payment of dividends out of profits, payment of interest if the parent company provides loan capital to the subsidiary, management charges, transfer prices for the sale of goods, royalties.

3. The risk that the exchange rate between two currencies will change over the long term due to differences in economic conditions between the countries of the two currencies.

4. An agreement between countries to avoid or minimise double taxation on profits earned abroad which are also taxable in the investor's home country.

5. \[(1 + \text{adjusted discount rate}) = (1 + \text{domestic discount rate}) \times (1 + \text{expected annual percentage rate at which foreign exchange rate is expected to change})\].

6. US dollars.

Answers to Questions

6.1

The global customer

A key factor in the growth of the global business in recent years has been the convergence of markets and, related to this, the emergence of the global customer. Improved global communications, together with an increase in global travel have meant that increasingly customers are exposed to, and aware of, products and lifestyles in other parts of the world. As a result of this, in many markets customers’ needs and wants have become more similar. Customers must be viewed from a global perspective and products and services developed to meet this new type of customer.

Cost advantages

This second driving factor underpinning the growth of global business stems from the recognition of the potential cost advantages from planning and operating globally. One area of cost advantage which can be achieved by an MNC is economies of scale due to the potential increase in volume facilitated by a global approach. Similarly, a global company may reap cost advantages by sourcing and/or operating from/in, lower cost countries across the world. A third source of potential cost advantages to the global business are those associated with transfer pricing and the minimising of tax liabilities for the organisation.

Governmental and trade policies

Governmental and trade policies have been a third major driving force for a more global approach to business. Most governments subscribe to the view that free trade and free markets are to the world’s advantage. In some areas this has meant that all trade barriers have been, or are being at least, removed. A good example of this is the development of the Asia-Pacific Economic Cooperation forum (APEC) which is based on free trade between member countries. Governments also sometimes prompt global strategies for more strategic reasons such as, for example, developing closer relationships with countries which are in some ways strategically significant.

Global competition

This fourth factor is in some ways a result of the previous three. Together these factors have served to make global business more attractive to more and more companies leading them to expand their global operations. As a result all companies have, in recent years, been faced with growing global competition. The growth of the global organisation is perhaps one of the most significant developments in business in recent years, and an understanding of some of the key forces and factors underpinning this development is important for all business managers.
6.2

The rate of taxation is lower in the foreign country. In choosing between dividend payments and making a management charge for head office services, the parent company should try to minimise its tax liability. It will be liable to tax at 25% on the profits that it makes in its own country, which will include profits on the revenue obtained from management charges. This might suggest that it would be better to make a low management charge (sufficient to prevent the parent company from making a loss) and pay a higher dividend, since the profits of the subsidiary are taxed at only 10%.

However, the parent company should also consider how dividends received from its investment in the foreign subsidiary will be taxed. The dividends may be subject to additional tax in the parent company's country, or dividend payments in the subsidiary's country may be subject to a withholding tax.

6.3

Solution

December Year 1: 1.4500 × (1.05/1.02) = 1.4926
December Year 2: 1.4926 × (1.06/1.02) = 1.5511
December Year 3: 1.5511 × (1.06/1.025) = 1.6041

6.4

Solution

Year-end discount factors are used here, because remittances will be paid at the end of each year.

\[
\begin{array}{lcccccc}
\text{Year} & 0 & 1 & 2 & 3 & 4 & 5 \\
\hline
\text{Cash flows in T£000} \\
\text{Sales receipts} & 1,600 & 1,600 & 1,600 & 1,600 & 1,600 & 1,600 \\
\text{Costs} & (1,000) & (1,000) & (1,000) & (1,000) & (1,000) & (1,000) \\
\text{Tax allowable depreciation} & (500) & (500) & (500) & (500) & (500) & (500) \\
\text{Taxable profit} & 100 & 100 & 100 & 100 & 100 & 100 \\
\text{Taxation} & (35) & (35) & (35) & (35) & (35) & (35) \\
\text{Add back tax allowable depreciation} & 500 & 500 & 500 & 500 & 500 & 500 \\
\text{Capital expenditure} & (2,000) & & & & & \\
\text{Scrap value} & 800 & & & & & \\
\text{Tax on scrap value (W1)} & (280) & & & & & \\
\text{Terminal value} & 500 & & & & & \\
\text{Tax on terminal value} & (175) & & & & & \\
\text{Working capital} & (400) & 600 & 565 & 565 & 2,265 & 490 \\
\text{Exchange rate} & 5:1 & 5:1 & 5:1 & 5:1 & 5:1 & 5:1 \\
\hline
\text{Cash flows in US$000} \\
\text{From/(to) Taxa} & (480) & 120 & 113 & 113 & 453 & (98) \\
\text{Additional US tax (W2)} & (6) & (6) & (6) & (6) & (6) & (6) \\
\text{Additional US expenses/income} & (100) & (100) & (100) & (100) & (100) & (100) \\
\text{US tax effect of US expenses/income} & 30 & 30 & 30 & 30 & 30 & 30 \\
\text{Net US$ cash flows ($000)} & (480) & 20 & 37 & 37 & 377 & (152) \\
\text{Discount factor at 10%} & 1 & 0.909 & 0.826 & 0.751 & 0.683 & 0.621 \\
\text{Present value} & (480) & 18 & 31 & 28 & 257 & (94) \\
\end{array}
\]

\[\text{NPV} = (\text{US$240,000}).\] The NPV is negative; therefore the company should not proceed with the investment.
Workings

1. Tax is payable on T£800,000 as tax written down value = T£2,000,000 – (4 × 500,000) = 0

<table>
<thead>
<tr>
<th></th>
<th>Years 1 – 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxable profit in T£000</td>
<td>100</td>
<td>1,400</td>
</tr>
<tr>
<td>In US$000</td>
<td>20</td>
<td>280</td>
</tr>
<tr>
<td>Tax in USA at 30%, in $000</td>
<td>6</td>
<td>84</td>
</tr>
</tbody>
</table>
Many companies pursue a growth strategy, with the aim of increasing profitability and value by developing and expanding the business. There are two ways of achieving growth: one is for the business to invest in its operations and grow organically, the other is to grow by means of acquisitions or mergers.

This chapter describes the reasons for and against the use of acquisitions and mergers as a method of expanding a business. It considers the effects of synergy and the impact of an acquisition or merger on the combined business. It also explains the problems of company valuation when a company seeks to expand through the acquisition of young start-up businesses, and ends with a review of the reasons for the regulation of mergers and acquisitions.
Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Merges and Acquisitions Versus Other Growth Strategies</strong></td>
<td></td>
</tr>
<tr>
<td>Discuss the arguments for and against the use of mergers and acquisitions as a</td>
<td></td>
</tr>
<tr>
<td>method of corporate expansion.</td>
<td></td>
</tr>
<tr>
<td>Evaluate, from a given context, the potential for synergy separately classified</td>
<td></td>
</tr>
<tr>
<td>as:</td>
<td></td>
</tr>
<tr>
<td>• Revenue synergy;</td>
<td>3</td>
</tr>
<tr>
<td>• Cost synergy; and</td>
<td></td>
</tr>
<tr>
<td>• Financial synergy.</td>
<td></td>
</tr>
<tr>
<td>Outline the problems of overvaluation of target companies.</td>
<td>2</td>
</tr>
<tr>
<td>Assess the impact of an acquisition or merger on the risk profile of the</td>
<td>3</td>
</tr>
<tr>
<td>acquirer.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate an understanding of the procedure for valuing high growth</td>
<td>2</td>
</tr>
<tr>
<td>start-ups.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate an understanding of the principal factors influencing the</td>
<td>2</td>
</tr>
<tr>
<td>development of the regulatory framework for mergers and acquisitions globally.</td>
<td></td>
</tr>
<tr>
<td>Explain, apply, and justify the use of income, asset-based, and market</td>
<td>3</td>
</tr>
<tr>
<td>valuation approaches used for investment decisions, business planning, and</td>
<td></td>
</tr>
<tr>
<td>long-term financial management.</td>
<td></td>
</tr>
</tbody>
</table>

**ESSENTIAL READING**

- FRS 2: *Inventories*
- FRS 16: *Property, plant and equipment*
- FRS 41: *Agriculture*
- FRS 103: *Business Combinations*
- FRS 113: *Fair value measurement*

*Singapore Code on Take-overs and Mergers*: visit [www.mas.gov.sg](http://www.mas.gov.sg)

*Accounting and Corporate Regulatory Authority (ACRA): Financial Reporting Practical Guidance No. 1 of 2015*

1 Corporate expansion: reasons for and against growth through acquisitions and mergers

**SECTION INTRODUCTION**

This section provides definitions of mergers and acquisitions and considers the arguments for and against the use of mergers and acquisitions as a method of corporate expansion.
1.1 Definitions

An acquisition or takeover involves the purchase of a controlling interest in one company by another company. There are different definitions of controlling interest, but the most usual definition is a majority of the voting shares or voting rights in a company. In a company with just one class of equity shares, this means more than 50% of the shares in issue. With many acquisitions, however, the purchasing company tries to acquire 100% of the shares in the target company.

An acquisition usually involves an offer to purchase the shares of the target company, and the term ‘offeror company’ is used for the company that makes the offer and the ‘offeree company’ is the company that receives the offer.

A merger or business combination involves bringing together two companies of roughly equal size into a single company. There are different methods of merging two companies, but perhaps the most common is to create a new holding company, which issues shares in exchange for the shares in the two companies that are merging.

For example, two companies A Ltd and B Ltd may agree to merge. This may be achieved by establishing a new company AB Ltd. AB Ltd issues new shares to the shareholders of A Ltd and B Ltd in exchange for their shares. Shareholders in A Ltd and B Ltd therefore exchange the shares in their former company for shares in AB Ltd.

A merger usually involves a share exchange. An acquisition or takeover may involve a share exchange, but the purchase consideration often involves a cash offer for the shares of the target company, or perhaps the offer of bonds or notes.

Mergers of companies are much less common than acquisitions of smaller companies by larger companies.

(a) Mergers depend on the ability of the management of the two companies to agree on how the business will be managed and operated as a combined unit, and the two companies and their management need to be familiar with each other and understand each other's business.

(b) With a takeover, the management of the acquiring company can make the decisions and exert control over the combined business.

(c) Opportunities for a large company to purchase a smaller company occur much more frequently than opportunities to merge two existing companies.

1.2 Strategic reasons for acquisitions and mergers

The most common reason for acquisitions or mergers is to grow the company. When a company has a strategy of business growth, there are two ways of achieving the strategic objective:

(a) To grow organically

(b) To grow through mergers or acquisitions

Organic growth, using the company's own resources and through retention of profits, can take a long time. Growth through acquisitions or mergers is immediate and so provides a way of expanding the business quickly.

Acquisitions and mergers are also a way of achieving diversification in the business. Without a merger or takeover, it is much more difficult for a company to move successfully into markets and products where it does not have much previous experience.
1.2.1 A strategic approach to acquisitions

Acquisitions are a way of taking advantage of strategic opportunities to grow the business. Some examples of how acquisitions can be used to grow a business are as follows.

<table>
<thead>
<tr>
<th>Strategic opportunities</th>
<th>Opportunity for growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steady rate of growth, but operating in a mature market with limited growth prospects</td>
<td>Acquire a company in a younger market with a higher growth rate</td>
</tr>
<tr>
<td>Produces and sells an incomplete product range; or has a sales and marketing operation with potential to sell more products to existing customers</td>
<td>Acquire a company with a complementary product range</td>
</tr>
<tr>
<td>Currently operating at full production capacity</td>
<td>Acquire a company that makes similar products that is operating below full capacity</td>
</tr>
<tr>
<td>Wants more control over suppliers or customers (the ‘supply chain’)</td>
<td>Acquire a company that will operate as a major supplier or a major customer</td>
</tr>
<tr>
<td>Lacks key clients in a targeted area for growth of the business</td>
<td>Acquire a company in the business that already has a suitable customer profile</td>
</tr>
<tr>
<td>Currently unquoted, but planning an initial public offering (IPO)</td>
<td>Acquire another company to give it bigger size in terms of revenue and earnings, so that it will be more attractive to investors in an IPO</td>
</tr>
<tr>
<td>Needs to increase market share</td>
<td>Acquire an important competitor</td>
</tr>
<tr>
<td>Needs to increase skills, capabilities and competences</td>
<td>Acquire a company with key talents and/or technology</td>
</tr>
</tbody>
</table>

1.2.2 Innovation

Successful long-term growth depends on an ability to innovate and bring new products to the market. Small companies can be an important source of innovative ideas and innovative products or services.

In order to achieve growth through innovation, established companies may invest heavily in research and development. In addition, they may invest in young start-up companies, or seek to acquire them from their entrepreneurial owners.

1.2.3 Opportunities for synergy

Management often claim that acquisitions and mergers create opportunities for synergy. Synergy can be described as a $2 + 2 = 5$ effect, whereby the combined business of two companies after an acquisition achieves better performance than the sum of the performance of the two companies before the acquisition. The same concept of synergy applies to mergers.

As a result of synergy, the value of a combined business after an acquisition or merger should be higher than the total value of the two separate businesses before they combined.

Synergy is an important concept. It may or may not occur after an acquisition or merger: there are differing views about opportunities for synergy. The nature of synergy is explained in more detail later.
1.3 Problems of over-valuation of target companies

With an acquisition, the acquiring company pays for the business of the acquired company. Shareholders in the acquired company receive value for what the acquirer considers the business to be worth.

The valuation of businesses involves subjective opinion and judgements, and the acquiring company will often pay a high price in order to obtain the agreement of the shareholders in the target company to sell their shares. Over-valuation of a target company may occur for several reasons:

(a) Management in the acquiring company may over-estimate the synergy that will be achieved after the takeover, and so offer too much for benefits that will not occur.

(b) Management in the acquiring company may also over-estimate their ability to improve the performance of the acquired company.

(c) There may also be an ‘agency problem’. This is the problem that the directors and senior executives of a company should act in the best interests of the company and all its shareholders, but they often act instead in their own personal interests.

Executive directors and senior management may favour an acquisition strategy because acquisitions make the company bigger. As managers in a bigger company, they will have higher status in the business community, and they will be able to negotiate higher levels of remuneration.

Studies have suggested that acquiring companies regularly pay too much to acquire target companies.

1.3.1 Over-valuation of target companies: transfer of value

Paying too much for a target company is possibly an unavoidable problem. For example, if a target company with 5 million shares is worth $10 million or $2 per share, why should the shareholders in the target company agree to an offer of $2 per share? They may consider an offer higher than $2, but by offering more than $2 the acquiring company would have to pay more than the target company is currently worth in order to acquire it.

Paying a higher price than the current market price for a target company's shares is referred to as paying a control premium to make the acquisition.

Acquiring companies may justify the offer of a high price on the basis that they expect to obtain benefits from synergy after the takeover. If these benefits are achieved, paying a high price could be justified. Unfortunately, the expected benefits from synergy are not always achieved.

The problem of over-valuation of a target company can be illustrated with a simple example.

**Example**

Large Ltd, an all-equity company, makes an offer to acquire Small Pte Ltd, another all-equity company. The market value of the shares in Large Ltd is currently $500 million. Large estimates that Small Pte Ltd is worth $50 million, and makes a successful cash offer at this price. It becomes apparent after the takeover, however, that Large Ltd paid too much for Small, which was only worth $30 million.

In this example, if there are no benefits from synergy after the takeover, there has been a transfer of value from the shareholders of Large to the shareholders of Small. Before the acquisition, the combined value of the two companies was $530 million (Large $500 million and Small $30 million). After the acquisition, the former shareholders of Small have $50 million in exchange for their shares. The value of Large should be $480 million ($500 million minus $50 million cash payment plus $30 million value of Small).

This example should demonstrate that if an acquirer pays too much to acquire a target business, its shareholders may suffer loss of value through a fall in the share price.
1.3.2 Valuation and mergers

A similar problem arises with mergers. When two companies merge, they may hope for synergy benefits so that the total value of the combined business will exceed the value of the two separate companies. However if the expected synergy benefits do not happen, the total value of the merged business will be the same as the value of the two separate companies before the merger.

If there is no increase in total value, there is a risk that the shareholders in one of the merged companies will receive an ‘unfair’ share of the combined company because their business has been over-valued or the business of the other merged company was under-valued.

1.4 Reasons against the use of acquisitions and mergers

There are strong arguments in favour of growth through acquisition, but there are also strong arguments against.

1.4.1 Reasons for loss of value

Over-valuation of target companies is a reason against the use of acquisitions and mergers to achieve growth in the business. As indicated above, one reason for over-valuation is failure to achieve the expected synergy benefits from an acquisition. There are various reasons why a takeover may result in a loss of value.

(a) The expected strategic benefits are not achieved. For example, there may be a loss of customers and fall in revenue after a takeover, because customers of the acquired company do not like the approach of the new owners. Or there may be failure to achieve the expected cost savings from combining the two business operations.

(b) There may be a loss of key employees or management after a takeover. Employees may resign because they do not like the new senior management or the different culture of the combined business. They may be given a new role in the merged business that they do not like. Even after a merger, it is quite common for senior staff in one of the merged companies to leave because they feel dominated by the employees and management of the other company.

(c) There may be unexpected difficulties and costs involved in combining the IT systems of the two companies.

(d) Management may fail to do their job well, and may manage the enlarged company badly.

SECTION SUMMARY

This section has explained the main reasons for mergers and acquisitions as a strategy for business growth, and the potential benefits from this method of business growth. It has also explained some of the potential problems and disadvantages. The biggest risk with acquisitions is probably the tendency for the acquirer to pay too much for the shares in the target company.

2 Synergy

SECTION INTRODUCTION

A reason often given to justify an acquisition or merger is the value of the benefits that will be realised. Many of these benefits can be described as synergy, or the $2 + 2 = 5$ effect. This section explains the different types or classifications of synergy.
The strongest argument in favour of acquisitions or mergers is that the combination of two companies will create important benefits and add to the value of the combined business. This creation of added value arises from the effects of synergy.

It is important to understand how synergy may occur. It may occur in a number of different ways, that can be classified as:

- Revenue synergy
- Cost synergy
- Financial synergy

2.1 Revenue synergy

Revenue synergy arises when the total revenue from a combined business is higher than the sum of the revenue achieved by the two companies before they combined.

(a) An acquired company may have an existing customer base that the acquiring company may target to sell more of its own products. For example a company in Singapore may acquire a company in Malaysia so that it can sell more of its products to the existing customers of the Malaysian company.

(b) The acquiring company may have an efficient sales and distribution system, which it can use to improve the effectiveness of selling by the acquired company.

(c) A company may acquire a start-up business that is developing an innovative product, in the expectation that it will be able to increase the rate of growth in sales of the product.

(d) The product ranges may complement each other increasing sales. For example a knife manufacturer and a fork manufacturer will sell more as 'sets' of knives and forks.

A problem with valuation of a target company, however, is to make reliable estimates of what the increase in total sales revenue might be.

2.2 Cost synergy

Cost synergy may also be called operational synergy. It refers to reductions in costs that can be achieved as a result of an acquisition or merger.

(a) The combined businesses may be able to share the same resources. For example after an acquisition, the head office operations of the acquired business may be brought into the head office of the acquiring company. This could achieve savings in accommodation costs and administration costs. Savings may also be achievable through the combination of distribution systems.

(b) By reorganising operations, it may be able to takeout some over-capacity in the business and reduce the number of employees or the amount of assets required to operate the business.

(c) Some benefits may be achieved from the larger size of the company after the acquisition or merger. In particular, as a larger buyer of materials and supplies, the enlarged company may be able to negotiate lower prices from its suppliers.

Question 7.1

Company D wishes to take over Company S. Both are listed companies. The following information relates to the two companies:

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of equity shares in issue</th>
<th>Market price per equity share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company D</td>
<td>20 million</td>
<td>$10.00</td>
</tr>
<tr>
<td>Company S</td>
<td>6 million</td>
<td>$3.00</td>
</tr>
</tbody>
</table>

The market price of each company's shares is regarded as an accurate reflection of their intrinsic value.
The takeover is expected to lead to research and development savings after taxation that have a present value of $12 million. The bid offer consists of one share in Company D for every three shares held in Company S, plus $1.00 in cash for every three shares held in Company S.

**Required**

By how much would the wealth of a shareholder who owns 3,000 shares in Company S increase if the takeover is successful?

Unfortunately it is difficult to estimate in advance what the size of cost synergies might be. There is a risk that a company will over-estimate the potential for cost synergy, and so offer too much to acquire a target company.

On the other hand, a large acquisition or a merger may create an enlarged business that is more stable, with more predictable profits. If so, the business risk in the combined company may be less than in the separate companies before the acquisition or merger. Lower business risk would reduce the beta factor of the company's equity capital, and reduce the WACC. A reduction in WACC would add to the value of the company.

### 2.3 Financial synergy

Financial synergy refers to the financial benefits that may arise from creating an enlarged company or group.

(a) As a larger company, with bigger revenues and profits, the company may be able to borrow more easily and at a lower rate of interest.

(b) Investors may also be more interested in purchasing shares in the company, which would make it easier for the company to raise capital by issuing new shares.

(c) There may be opportunities for improvements in tax planning and reducing the average rate of taxation on profits in the combined business.

A consequence of these improvements in the financial status of a business would be a reduction in its perceived finance risk. This would reduce the WACC and add value to the company.

### 2.4 Synergy and valuation of target companies

When an acquiring company is deciding how much to offer for a target company, the valuation of expected synergy is an important issue to consider.

One approach to valuation of a takeover is to calculate the free cash flows that would be obtained from an acquired company after the acquisition, and to discount these to a present value at an appropriate cost of capital.

**SECTION SUMMARY**

There are different methods of making a valuation of a takeover target. Most methods are based on estimates of earnings or cash flows. An important factor is the nature and amount of benefits that will be obtained from synergy – revenue, cost and financial synergy.

These expected benefits are often used to justify paying a high price for an acquisition.

The assessment of a proposed takeover, and the valuation of a target company for the purpose of a takeover bid, should be realistic (and not over-optimistic) in the assessment of synergy benefits.
3 Impact of an acquisition on risk profile

An acquisition of a target company may affect the risk of the acquiring company in different ways.

(a) The business risk and finance risk of the acquirer may be unaffected.
(b) The acquisition may affect the finance risk of the acquirer, but not its business risk.
(c) The acquisition may affect both finance risk and business risk of the acquirer.

A different approach to the valuation of a target company is required in each of these situations. The different approaches are explained in the following sections.

4 Valuation: finance risk and business risk of acquirer unaffected

SECTION INTRODUCTION

There are different approaches to the valuation of takeover targets. One approach is to ignore the effects of business risk and finance risk in the acquisition, and to assume that the systematic risk of the company after the takeover will be the same as before the takeover.

If the problem of risk is ignored, a valuation can be made using any of the methods described in the earlier chapter on business valuations: an assets-based valuation; an earnings multiple valuation; a Discounted Cash Flow valuation of expected free cash flows; or possibly a dividend valuation model.

When the finance risk and business risk of the acquirer are not affected by an acquisition, the method of valuation for a target company should be one of the methods described in Chapter 3.

When synergy is expected from the acquisition, the preferred method of valuation would be to estimate the free cash flows from the acquired business and discount these to obtain a present value.

The free cash flows should include the effects on revenues and costs of the expected synergies. The free cash flows may be:

(a) The free cash flows of the company as a whole, before deduction of interest and principal payments on debt capital: if so the forecast free cash flows should be discounted at the company's cost of capital to obtain a valuation for the target company as a whole (equity plus debt).
(b) The free cash flows available to equity shareholders, after deduction of interest and principal payments on debt: if so the forecast free cash flows should be discounted at the company's cost of equity to obtain a valuation of the equity capital in the target company.

Since there is no change in the finance risk or business risk of the company post-acquisition, the discount rate for a DCF-based valuation should be the company's existing WACC.

Example

Chan Ltd is planning to make a bid to acquire Leon Pte Ltd, a large unquoted company which is in the same industry. Chan Ltd has a gearing level of 20% (where gearing is the market value of debt capital as a percentage of the total market value of the company, equity plus debt). Although Chan would be acquiring a private company, it is expected that the company's finance and business risk will not be affected by the takeover of Leon.

Chan has estimated that the acquisition will increase its annual free cash flows by the following amounts. (Assume that these cash flows will occur at an even rate throughout the year.)
Leon has $40 million variable rate bank loans.

The risk-free rate is 3% and the market rate of return is 8%. The cost of Chan's debt capital is 5% before tax. Chan's Equity Beta is 1.44 and the tax rate is 17%.

It is also estimated that if Chan acquires Leon, the acquisition will be financed by a combination of equity and debt capital that leaves the capital structure of the combined companies the same as Chan's current capital structure. As a result, the additional interest cost that would be incurred after an acquisition has been estimated at about $2 million each year before tax.

**Required**

Estimate a valuation for the equity shares of Leon, for the purpose of making a takeover bid.

**Solution**

Chan:

$K_e$ (using CAPM) = 3 + 1.44 (8 – 3) = 10.20%

$K_d = \left[\frac{i}{P_0}\right] \times (1 – t) = \left[\frac{5}{100}\right] \times 0.83 = 4.15%$

WACC = (80% × 10.20) + (20% × 4.15) = 8.99% rounded to 9%

**Approach 1: valuation of entire company**

<table>
<thead>
<tr>
<th>Year</th>
<th>After tax (but before interest) cash flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>14.00</td>
</tr>
<tr>
<td>Year 2</td>
<td>18.00</td>
</tr>
<tr>
<td>Year 3</td>
<td>20.00</td>
</tr>
<tr>
<td>Year 4 onwards in perpetuity</td>
<td>22.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/(1.09)^{0.5}</td>
<td>1/(1.09)^{1.5}</td>
<td>1/(1.09)^{2.5}</td>
</tr>
<tr>
<td>0.958</td>
<td>0.879</td>
<td>0.806</td>
</tr>
</tbody>
</table>
### Approach 2: Valuation of free cash flows to equity

The free cash flows for equity should be discounted at the cost of equity, which is 10.2%. For the purpose of this example, the cost of equity is rounded down to 10%.

Annual interest after tax = $2 million × 0.83 = $1.66 million.

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4 onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>$m</td>
<td>$m</td>
<td>$m</td>
<td>$m</td>
<td>$m</td>
</tr>
<tr>
<td>Cash flow</td>
<td>14.00</td>
<td>18.00</td>
<td>20.00</td>
<td>22.00</td>
</tr>
<tr>
<td>Less interest</td>
<td>(1.66)</td>
<td>(1.66)</td>
<td>(1.66)</td>
<td>(1.66)</td>
</tr>
<tr>
<td>Cash flow after interest and tax</td>
<td>12.34</td>
<td>16.34</td>
<td>18.34</td>
<td>20.34</td>
</tr>
<tr>
<td>DCF factor for annuity in perpetuity (1/0.10)</td>
<td>10.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value at Year 3</td>
<td>203.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount factor (mid-year, 10.2%)</td>
<td>0.953</td>
<td>0.867</td>
<td>0.788</td>
<td>0.788</td>
</tr>
<tr>
<td>Present value</td>
<td>11.76</td>
<td>14.17</td>
<td>14.45</td>
<td>160.28</td>
</tr>
</tbody>
</table>

**Total present value of Leon equity:** $200.66 million

This gives a similar valuation as in the calculation above, with some differences in the calculations to allow for rounding and the approximation in the cost capital.
SECTION SUMMARY

When changes in systematic risk that may occur with a takeover are ignored, the valuation of a potential takeover target may be based on relatively simple valuation methods. However, a valuation based on estimating the present value of free cash flows is probably the most reliable.

A valuation based on the PV of free cash flows should usually make estimates of free cash flows after the acquisition year to a year when expected annual profits stabilise and the company is expected to achieve a ‘steady state’ in its business. When this point in time is reached, it is possible to estimate a terminal value for the business. This is the present value of all future annual cash flows in perpetuity from the year that the steady state in cash flows is achieved.

You should note that the forecasting of future annual cash flows can be problematic. Finding an estimated growth rate for future cash flows is challenging, and any inaccuracy will lead to an incorrect value. A growth rate may not be built in, so that cash flows are assumed to be ‘the same in perpetuity’, in order to provide a more conservative terminal value.

The PV of this terminal value is often a significant proportion of the total valuation of the target company.

5 Valuation: finance risk of acquirer affected

SECTION INTRODUCTION

When an acquisition is not expected to change the business risk of the company post-acquisition, but is expected to change the finance risk, the systematic risk of the company will change. A different approach to valuation of acquisition targets is recommended.

The most appropriate method of valuation may be an approach based on the Adjusted Present Value method.

When an acquisition is expected to alter the finance risk of the acquiring company but not the business risk, the Adjusted Present (APV) method can be used to estimate a value for the target company. The APV method was explained previously in Chapter 5, in the context of capital structure: here it is applied to the valuation of a takeover target.

An acquisition is valued by discounting the free cash flows to the firm by the ungeared cost of equity and then making an adjustment for the present value of the tax shield. A value for the target company (equity plus debt), ignoring bankruptcy risk, is estimated as:

\[
\text{Value of acquired company if the acquisition is all-equity financed} + \text{Present Value of debt tax shield}
\]

The value of the equity in the target company is then calculated by deducting the market value of its debt capital. This is the maximum amount that the acquirer should pay for the equity in the target company. The offer price should ideally be less than this amount; otherwise the APV of the acquisition would be $0.
Steps for the calculation of APV

1. Calculate the incremental free cash flows and convert these into a present value as if the company is ungeared, to obtain a base case PV.

2. Add the PV of the tax shield on the debt that will be used to finance the acquisition. This adjusted value is the estimated total value of the acquired company after the acquisition. Make adjustments for any other costs of financing, such as transaction costs for raising new capital.

3. Deduct the market value of the debt capital in the target company to obtain a maximum valuation for the equity capital.
Example

The management of Sock Ltd is considering the acquisition of Winn Pte Ltd, an unquoted company. The owners of Winn want $250 million for the equity shares in their company. An analysis of the financial prospects of Winn is reflected in the following financial statements.

<table>
<thead>
<tr>
<th>Income statement</th>
<th>Actual</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 0 $m</td>
<td>Year 1 $m</td>
</tr>
<tr>
<td>EBIT</td>
<td>22.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Less interest expense</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Earnings before tax</td>
<td>18.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Less tax at 20%</td>
<td>3.6</td>
<td>4.0</td>
</tr>
<tr>
<td>Net income</td>
<td>14.4</td>
<td>16.0</td>
</tr>
</tbody>
</table>

Other information

- Pre-tax cost of Winn debt: 5%
- Tax rate: 20%
- Current beta factor of Sock: 1.84
- Risk free rate: 4.8%
- Market risk premium: 8.3%

Cash flows after Year 5 will remain the same in perpetuity, and a terminal value at Year 5 should be included in the valuation.

Sock management estimate that if they acquire Winn for $250 million they would finance the acquisition entirely with debt capital, issuing $250 million in fixed rate bonds at an interest cost of 5%. Issue costs for the new bonds would be $10 million after tax, incurred in Year 0.

It is estimated that the annual cost of replacing essential assets to maintain these estimated future earnings will be $30 million each year in perpetuity. The annual depreciation charge will be the same amount, $30 million each year.

The debt to equity ratio of Sock is currently 1:3 in terms of market value. If the takeover is entirely financed with new debt capital, Sock’s debt to equity ratio in terms of market value will change to 2:3. Assume that the debt capital of Sock is risk-free.

Required

Should the management of Sock Ltd agree to the valuation placed by the owners of Winn on their equity shares?

Solution

See the footnote to this solution for a discussion of the assumption used in this APV valuation.

Step 1

Ungear Sock’s beta:

\[ 1.84 \times \frac{3}{3 + 1(1 - 0.20)} = 1.45 \]

Adjust (regear) this asset beta to an equity beta that reflects Sock’s new capital structure after the debt issue:

\[ = 1.45 \times \frac{3 + 2(1 - 0.20)}{3} = 2.22 \]
Use this new equity beta factor to obtain a cost of equity, and then calculate a discount rate for the acquisition based on the weighted cost of capital (40% debt 60% equity; or 2:3):

$$K_e = 4.8\% + 2.22(8.3\% - 4.8\%) = 12.57\%$$

$$K_d = 5\% \times 0.8 = 4\%$$

$$(12.57\% \times 0.6) + (4\% \times 0.4) = 9.142\% \text{ (say 9\%) }$$

Since annual expenditure on capital equipment will be equal to the depreciation charge of $30 million each year, the free cash flows to equity in an all-equity company will be equal to EBIT minus tax at 20%.

<table>
<thead>
<tr>
<th>Year</th>
<th>EBIT $m</th>
<th>Tax at 20% $m</th>
<th>Free cash flow $m</th>
<th>Terminal value factor at 9%</th>
<th>Terminal value $m</th>
<th>Discount factor at 9%</th>
<th>PV $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
<td>4.8</td>
<td>19.2</td>
<td>0.917</td>
<td>17.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>5.0</td>
<td>20.0</td>
<td>0.842</td>
<td>16.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>26</td>
<td>5.2</td>
<td>20.8</td>
<td>0.772</td>
<td>16.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>27</td>
<td>5.4</td>
<td>21.6</td>
<td>0.708</td>
<td>15.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 on</td>
<td>29</td>
<td>5.8</td>
<td>23.2</td>
<td>11.11</td>
<td>257.75</td>
<td>0.708</td>
<td>182.49</td>
</tr>
<tr>
<td><strong>Base case NPV</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>248.29</strong></td>
</tr>
</tbody>
</table>

**Step 2 and Step 3**

Calculate the present value of the tax shield on the debt and allow for the issue costs for the bonds.

The new debt will be $250 million. In addition Sock would acquire the debt capital of Winn, which has an estimated market value of $4 million/0.05 = $80 million. Total additional debt will be $330 million.

$$PV \text{ of tax shield } = Dt = \frac{330 \text{ million}}{20\%} = 66 \text{ million}$$

<table>
<thead>
<tr>
<th></th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base case NPV</td>
<td>248.29</td>
</tr>
<tr>
<td>PV of tax shield</td>
<td>66.00</td>
</tr>
<tr>
<td>PV of issue costs</td>
<td>(10.00)</td>
</tr>
<tr>
<td>Adjusted present value: maximum total value of Winn</td>
<td>304.29</td>
</tr>
<tr>
<td>Less value of debt in Winn</td>
<td>(80.00)</td>
</tr>
<tr>
<td>Maximum value of Winn equity</td>
<td>224.29</td>
</tr>
</tbody>
</table>

**Conclusion**

On the basis of these calculations, the owners of Winn are demanding too high a price for their shares. The management of Sock should try to continue negotiations with a view to reducing the price for the shares.

**Footnote**

It has been assumed in this solution that Sock will acquire 100% of the business of Winn; therefore the value of the acquisition has been calculated assuming that the acquisition consists of the entire business of Winn, financed by a combination of new debt ($250 million) and old debt ($80 million). The value of Winn equity is calculated as the value of the business as an acquisition minus the value of the existing debt in Winn.

An alternative assumption could be that Sock would be acquiring just the equity, so the free cash flows acquired will be the after-tax profits (since annual depreciation costs = annual replacement of non-current assets). These could be discounted at the cost of equity ungeared, and the adjustment $Dt$ would be for the $250 million of new debt only.
5.1 APV method of valuation and default risk

The explanation above of the APV method of valuation ignores bankruptcy risk, or default risk. This is the risk that by borrowing to finance an investment, and increasing its total debt, a company will be exposed to a greater risk of default on its borrowing and so the expectation of bankruptcy as a result of default.

For this reason, the calculation of the APV of an investment should be reduced to allow for an estimate of bankruptcy cost.

The problem in practice, however, is to obtain a reliable estimate of what this cost might be. However, you should be aware of this aspect of the APV method.

SECTION SUMMARY

When the finance risk of a company will be affected by an acquisition, the effect of the change in risk will affect the value of the acquisition target. It is therefore appropriate to make a valuation using the APV method, which takes into specific consideration the method of financing that will be used.

The first step in the method is to calculate a present value for the target company or the target company's equity) on the assumption that the acquisition will be all-equity financed. Adjustments should then be made for the actual financing method, including the present value of the tax relief for interest charges on debt capital, and any costs of raising the finance.

It is important to understand whether the APV valuation is for the equity shares only in the target company, or whether it is a valuation for the target company as a whole. When the valuation is based on cash flows after tax but before interest, it is a valuation for the company as a whole. To obtain a valuation for the equity, the value of the debt capital in the target company should be deducted.

6 Valuation: finance risk and business risk of acquirer affected

SECTION INTRODUCTION

An acquisition or merger may change both the finance risk and the business risk of the business. When changes in systematic risk are due to changes in both finance risk and business risk, an appropriate method of valuation is an approach based on Modigliani-Miller theory and formulae for ungeared and re-g geared betas to obtain a suitable cost of capital for a DCF valuation of expected free cash flows.

An acquisition may affect both the business and the financial risk of the acquiring company. A valuation of the target company can be made using Modigliani and Miller's formulae for ungearing and re-gearing the beta factor. The following steps should be followed to value an acquisition.

Calculate the Asset Betas (= ungeared betas) for both companies.
Calculate the weighted average Asset Beta for the combined group after the acquisition.

\[ \beta_{a1} \times \frac{V_1}{V_1 + V_2} + \beta_{a2} \times \frac{V_2}{V_1 + V_2} \]

Where

- \( \beta_{a1} \) = Asset Beta of Company 1 and \( \beta_{a2} \) = Asset Beta of Company 2
- \( V_1 \) = Total market value of Company 1 (equity + debt capital)
- \( V_2 \) = Total market value of Company 2 (equity + debt capital)

Re-gear the Equity Beta to reflect the post-acquisition systematic risk of the group. Allow for any new equity or debt capital in the combined group.

Calculate the group's new WACC post-acquisition. Use the new Equity Beta to calculate a cost of equity in the new group, for the purpose of calculating a WACC.

Discount the group's free cash flows post-acquisition, using this new WACC, to obtain a valuation for the group.

To estimate a maximum valuation for the equity shares in the target company, deduct the market value of the debt capital (post-acquisition) in both companies and the value of the equity in the acquiring company.

(Note: that in practice, Step 2 above would usually involve using the beta of a comparable listed group. We have included the formula for calculating the weighted average asset beta as a calculation exercise.)
Example 1

King Ltd is considering the acquisition of Prince Ltd. The management of King have estimated that the cash flows of Prince will grow much faster than theirs over the next 10 years, and that considerable savings will be realised by integrating their distribution networks and marketing operations. The estimated cash flows for King, Prince and the synergies in the case of a merger are shown below. It is estimated that on acquisition King will be able to sell one of its storage sites realising an instant income of $5 million.

<table>
<thead>
<tr>
<th>Year</th>
<th>Prince $m</th>
<th>Synergies $m</th>
<th>King $m</th>
<th>Cash flows of combined entity $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>6</td>
<td>42</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>6</td>
<td>45</td>
<td>65</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
<td>6</td>
<td>48</td>
<td>71</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
<td>6</td>
<td>51</td>
<td>78</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>6</td>
<td>54</td>
<td>85</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>6</td>
<td>56</td>
<td>92</td>
</tr>
<tr>
<td>7</td>
<td>36</td>
<td>6</td>
<td>59</td>
<td>101</td>
</tr>
<tr>
<td>8</td>
<td>39</td>
<td>6</td>
<td>64</td>
<td>109</td>
</tr>
<tr>
<td>9</td>
<td>43</td>
<td>6</td>
<td>70</td>
<td>119</td>
</tr>
<tr>
<td>10</td>
<td>46</td>
<td>6</td>
<td>79</td>
<td>131</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Terminal value, end of Year 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>680</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,665</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,395</td>
</tr>
</tbody>
</table>

The following information is available.

<table>
<thead>
<tr>
<th>King $m</th>
<th>Prince $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt (market value)</td>
<td>100</td>
</tr>
<tr>
<td>Equity (market value)</td>
<td>900</td>
</tr>
<tr>
<td>Asset Beta</td>
<td>0.9</td>
</tr>
</tbody>
</table>

King has decided to make a cash offer of $380 million to the shareholders of Prince for the purchase of 100% of their shares. The cash offer will be funded by additional borrowing.

The tax rate is 20%. Risk-free rate is 5% and the required rate of return for the combined company is 9%. Cost of debt for the combined company is expected to be 7%. The market premium (the difference between the market return and the risk-free rate of return) is 4%.

Calculate the change in equity for King's shareholders that would result from the acquisition.
Solution

**STEP 1**

The ungeared betas (Asset Betas) for both companies are given in the question, so there is no need to calculate these.

**STEP 2**

The best estimate of the Asset Beta (ungeared beta) for the group after the acquisition is the weighted average of their current Asset Betas.

Total market value of King = (900 + 100) = 1,000

Total market value of Prince = (280 + 20) = 300

Weighted average Asset Beta = 

\[ \frac{(1,000/1,300) \times 0.9} + \frac{(300/1,300) \times 2.4} = 1.25 \]

**STEP 3**

Re-gear the beta to reflect the post-acquisition systematic risk of the group. The acquisition will cost $380 million, financed by debt. It is assumed that the capital structure after the acquisition will be Equity $1,180 million (= $900m + $280m) and Debt $500 million (= $380m + $100m + $20m).

It is assumed that the debt is risk-free and its beta is 0. (Although this is not strictly true, for the purpose of your examination it is a simplifying assumption.)

**Geared beta of combined company** = Asset Beta + (Asset Beta – Debt beta) \times \left( 1 - t \right) \times \frac{\text{Total debt}}{\text{Total equity}}

\[ = 1.25 + \left[ (1.25 - 0) \times (1 - 0.20) \times (500/1,180) \right] \]

\[ = 1.674 \]

**STEP 4**

Calculate the group's WACC post-acquisition

Cost of equity (using CAPM)

\[ K_e = 5\% + (1.674 \times 4\%) = 11.70\% \]

\[ \text{WACC} = \left[ \frac{(1,180/1,680) \times 11.70}{1,680} \right]\% + \left[ \frac{(500/1,680) \times 7\% \times (1 - 0.20)}{1,680} \right] \%

\[ = 9.885\%. \]

This will be rounded up to 10%, for the purpose of this example.
Discount the group's free cash flows post-acquisition, using this new WACC, to obtain a valuation for the group.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flows of combined entity $m</th>
<th>Discount factor at 10%</th>
<th>PV of combined entity $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
<td>1.000</td>
<td>5.00</td>
</tr>
<tr>
<td>1</td>
<td>60</td>
<td>0.909</td>
<td>54.54</td>
</tr>
<tr>
<td>2</td>
<td>65</td>
<td>0.826</td>
<td>53.69</td>
</tr>
<tr>
<td>3</td>
<td>71</td>
<td>0.715</td>
<td>50.77</td>
</tr>
<tr>
<td>4</td>
<td>78</td>
<td>0.683</td>
<td>53.27</td>
</tr>
<tr>
<td>5</td>
<td>85</td>
<td>0.621</td>
<td>52.79</td>
</tr>
<tr>
<td>6</td>
<td>92</td>
<td>0.564</td>
<td>51.89</td>
</tr>
<tr>
<td>7</td>
<td>101</td>
<td>0.513</td>
<td>51.81</td>
</tr>
<tr>
<td>8</td>
<td>109</td>
<td>0.467</td>
<td>50.90</td>
</tr>
<tr>
<td>9</td>
<td>119</td>
<td>0.424</td>
<td>50.46</td>
</tr>
<tr>
<td>10</td>
<td>131</td>
<td>0.386</td>
<td>50.57</td>
</tr>
<tr>
<td></td>
<td>Terminal value, end of Year 10</td>
<td></td>
<td>2,395</td>
</tr>
<tr>
<td></td>
<td>Total PV</td>
<td></td>
<td>924.47</td>
</tr>
<tr>
<td></td>
<td>Total value of group = $1,450.16 million, rounded to $1,450 million.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Deduct the market value of debt capital

<table>
<thead>
<tr>
<th></th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total estimated PV of group post-acquisition</td>
<td>1,450</td>
</tr>
<tr>
<td>Value of debt in group</td>
<td>500</td>
</tr>
<tr>
<td>Value of equity shares</td>
<td>950</td>
</tr>
<tr>
<td>Current market value of King shares</td>
<td>900</td>
</tr>
<tr>
<td>Increase in value of King Ltd's shares</td>
<td>50</td>
</tr>
</tbody>
</table>

The value of the equity after the acquisition is value for the King Ltd shareholders, because the shareholders in Prince have accepted cash for their shares and are not shareholders in the combined business.

By paying $380 million for the shares in Prince, shareholders in King should expect an increase of $50 million in the value of their shares.
Example 2

Stan Ltd is considering making a bid for 100% of Pat Ltd, a company in a completely different industry. The bid of $200 million, which is expected to be accepted, will be financed entirely by new debt with a post-tax cost of debt of 7%.

Pre-acquisition information

Stan

Stan has debt finance totalling $200 million at a pre-tax rate of 7.5%. There are 500 million equity shares with a current market value of $2.20 each and an Equity Beta of 1.37.

Post-tax operating cash flows (assuming no acquisition) would be as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>83</td>
</tr>
<tr>
<td>2</td>
<td>86</td>
</tr>
<tr>
<td>3</td>
<td>89</td>
</tr>
<tr>
<td>4</td>
<td>92</td>
</tr>
<tr>
<td>5</td>
<td>96</td>
</tr>
</tbody>
</table>

Pat

Pat has an Equity Beta of 2.00 and 65 million shares in issue with a total current market value of $156 million. Its current debt – which will also be taken over by Stan – is $40 million.

Post-tax operating cash flows of Pat’s current business will be:

<table>
<thead>
<tr>
<th>Year</th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
</tr>
</tbody>
</table>

Post-acquisition information

Land with a value of $14 million will be sold immediately after the acquisition.

If the acquisition goes ahead, Stan will experience a change in its credit rating and all existing debt will have a post-tax cost of 7%.

Cash flows after year 5 for the combined group will grow at a rate of 2% per annum in perpetuity.

General information

The risk-free rate is 5.2% and the market risk premium is 3%. The tax rate is 20%. Assume that the beta of debt capital is 0. Also assume year-end cash flows in your Present Value calculations.

Required

Should Stan go ahead with the acquisition of Pat? Give reasons for your answer.
Solution

Calculate Asset Betas of both companies
Assuming a beta of 0 for debt capital, the Asset Betas for each company can be calculated using the following formula.

\[ \beta_a = \beta_e \times \frac{V_e}{V_e + V_d (1-t)} \]

Stan: \( V_e = 500 \text{ million} \times 2.20 = 1,100 \text{ million} \). \( V_d = 200 \text{ million} \)

\[ \beta_a = 1.37 \times \frac{1,100}{(1,100 + 200(1-0.20))} = 1.196 \]

Pat: \( \beta_a = 2.00 \times \frac{156}{(156 + 40(1-0.20))} = 1.660 \)

Value of Stan equity = $2.20 \times 500 \text{ million shares} = $1,100 \text{ million} 
Total value of Stan (in $million) = $1,100 + $200 = $1,300
Total value of Pat (in $million) = $156 + $40 = $196.

Weighted average Asset Beta =

\[ \frac{1.196 \times 1,300}{1,496} + \frac{1.660 \times 196}{1,496} = 1.2568 \]

Re-gear beta to reflect group post-acquisition gearing
Note: Total debt in the group will be 200 + 200 + 40 = 440
Total equity = 1,100 + 156 = 1,256
Geared beta of combined company = Asset Beta + (Asset Beta - debt beta) \times

\[ \frac{(1-t) \times \text{Total debt}}{\text{Total equity}} \]

\[ = 1.2568 + [((1.2568 - 0) \times (1 - 0.20) \times (440/1,256))] \]

\[ = 1.609 \]

(Note: Remember to include the additional debt capital that will be obtained to finance the acquisition.)

Calculate the group's new WACC
\( k_e = 5.2 + (1.609 \times 3) = 10.027\% \)

\[ \text{WACC} = (10.027\% \times 1,256/(1,256 + 440)) + (7\% \times 440/(1,256 + 440)) = 7.426 + 1.816 = 9.242\% \]

Discount group's post-acquisition cash flows using this WACC
For the purpose of this example, the WACC will be rounded down to 9%. Year-end discount factors are used in this example.
The value of the equity in the combined companies would be slightly less than Stan's current equity value as an individual company (500 million shares \times \$2.20 = \$1,100m). This means that Stan would be paying too much for the shares in Pat and would lose value as a result of the acquisition. **Therefore the acquisition of Pat should not go ahead**, unless a lower purchase price can be negotiated.

### Notes

You may be wondering about the meaning of terminal value (just a reminder as covered in Chapter 3) and how it is calculated.

The terminal value of a business is calculated as the present value of all future cash flows in perpetuity.

(a) The PV of all future cash flows in perpetuity from Year \(N\) onwards;

\[
P_{\text{V(N-1)}} = \frac{CF}{r}
\]

where

- \(CF\) = a constant annual cash flow every year in the future in perpetuity
- \(r\) = the cost of capital

\(P_{\text{V(N-1)}}\) is the present value of these future cash flows as a \(t\) Year \((N-1)\).

For example, if the cost of capital is 8\% and cash flows in perpetuity from Year 5 onwards = \$6 million, the PV of the future cash flows from Year \(N\) in perpetuity, as at the end of Year 4 (= 5 – 1) = \$6 million/0.08 = \$75 million.

When the cash flows are the future cash flows of a company in perpetuity, this value is called the terminal value of the company. In this example, a Year 0 Present Value is calculated by discounting the PV as at the end of Year 4 to a Year 0 value, using the discount factor for Year 4.

(b) When future cash flows are expected to increase at a constant percentage rate every year in perpetuity, the terminal value is calculated using a formula similar to the dividend growth model, which was described in the chapter on business valuations.
The PV of future cash flows as at Year N is calculated as:

The expected cash flow in Year (N + 1), divided by \((r – g)\)

Where \(g\) = the expected annual growth rate and

\(r\) = the cost of capital

In the example above, the PV of the future cash flows from Year 6 onwards has a present value as at the end of Year 5 of:

\[
\frac{116 \times (1.02)}{(0.09 – 0.02)} = 1,690.3
\]

**Question 7.2**

**Proposed acquisition**

Tango Ltd is considering making a takeover bid for 100% of Sierra Ltd, a company in a completely different industry. The bid of $120 million, which is expected to be accepted, will be financed entirely by new debt with a pre-tax cost of 6%.

**Pre-acquisition information**

Tango has debt finance totalling $360 million which has a pre-tax cost of 6.5%. Its equity shares have a current market value of $300 million and an Equity Beta of 1.68.

Sierra has an Equity Beta of 2.50. Its shares have a total current market value of $100 million. Its current debt – which will also be taken over by Tango – is $60 million.

**Post-acquisition information**

Post-tax free cash flows for the company, allowing for estimates of revenue and cost synergies, are expected to be:

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$m</td>
<td>$m</td>
<td>$m</td>
<td>$m</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>70</td>
</tr>
</tbody>
</table>

These free cash flows have been estimated on the assumption that the synergies from the takeover will be substantial, especially in Years 2, 3 and 4. Cash flows after year 4 for the combined group will grow at a rate of 1.5% per year.

If the acquisition goes ahead, the credit rating of Tango will improve and all existing debt will have a pre-tax cost of 6%.

**General information**

The risk-free rate is 4% and the market risk premium is 3.5%. The tax rate is 20%. Assume that the beta of debt capital is 0. Also assume that cash flows occur at an even rate throughout the year in your Present Value calculations.

**Required**

Should Tango go ahead with the acquisition of Sierra? Give reasons for your answer.
SECTION SUMMARY

A problem with the valuation for a target acquisition when both finance risk and
business risk are expected to change post-acquisition is identifying a cost of capital
for calculating the present value of expected future free cash flows.

A suitable method is to calculate a cost of capital in the combined company by
ungearing the beta factors for the two companies and then re-gearing a beta factor
for the combined company. The method has weaknesses: for example, the method
of calculating the WACC post-acquisition is based on an assumption about the
relative values of equity and debt that is not entirely accurate.

Even so, it is a more reliable method of obtaining a cost of capital for discounting
cash flows than any alternative method.

For any valuation, estimates of free cash flows after the acquisition or merger
(including the effects of synergy) are critically important.

7 Valuation of high-growth start-ups

SECTION INTRODUCTION

Some companies acquire small start-up businesses in order to acquire ownership of
an innovative idea or a new product or service. They hope that the new product will
be successful and contribute to the company's business growth in future years.

However, many start-up businesses are unsuccessful and fail within the first few
years. A problem for companies wanting to acquire a start-up business is how to
make a valuation for the purpose of a takeover bid.

This section considers the problems of valuation and the approaches to valuation
that may be used.

A start-up business is a business that has been in existence for only a fairly short time. A start-up
business may be an attractive acquisition because of its potential for future growth rather than what it has
achieved so far. For example, it may own the patent to a product, process or intellectual property (such as
software) that could have long-term commercial value.

The examples of valuations of takeovers used so far in this chapter have been takeovers of quoted
companies or large private companies. Some companies acquire small start-up companies, often as a part
of their business strategy. Start-up companies are a source of innovative ideas, and new products or
services. Successful new products and services are an important driver of business growth.

Buying start-up companies is a way of acquiring innovative ideas and products that may be an important
source of growth in the future.

Unfortunately, many new product ideas fail, and many new businesses do not last long before they
collapse. So although acquiring start-up companies creates opportunities for business growth, it is also a
high-risk strategy.

7.1 The problems with valuation of high-growth start-ups

There are special problems when trying to value a high-growth start-up business.

(a) There is a problem in deciding when to acquire a young business. If a company waits too long
before trying to buy a young company, a rival company might make a successful offer sooner. It
may be necessary to buy young companies before they enter a strong growth phase in their business, in the hope that the business will grow soon.

(b) Most start-ups have little or no track record in business. Revenue may be growing, but from a very small base.

(c) Because revenues are non-existent or small, the business is likely to be making losses and may have negative cash flows.

(d) Their products may be new, and not yet fully developed for a commercial market launch. If so the likely volume of sales demand for the product will be unknown.

(e) Their management may be inexperienced in business.

(f) Little may be known about the nature of competition that may emerge, if the product is new.

Start-up businesses may be grouped into three categories, with the following characteristics:

<table>
<thead>
<tr>
<th>Type of business</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea companies</td>
<td>No revenue</td>
</tr>
<tr>
<td></td>
<td>Operating losses</td>
</tr>
<tr>
<td></td>
<td>Negative cash flows</td>
</tr>
<tr>
<td>Start-up companies</td>
<td>Revenues are growing, but are currently low</td>
</tr>
<tr>
<td></td>
<td>Making losses: negative cash flows</td>
</tr>
<tr>
<td>Second stage companies</td>
<td>Revenues are growing</td>
</tr>
<tr>
<td></td>
<td>Moving towards profit</td>
</tr>
<tr>
<td></td>
<td>But still making losses</td>
</tr>
<tr>
<td></td>
<td>Cash flows may still be negative</td>
</tr>
</tbody>
</table>

7.2 Methods of valuation for start-ups

Either a market-based approach or an income approach to valuation may be used. This will require reasonable predictions about the factors that will be key drivers of the business in the future.

(a) A valuation will depend on the reasonableness of the financial projections. These should be made with regard to the market potential for the product or process that the start-up owns, the resources of the business, and the abilities of its management.

(b) Although a start-up does not have a long track record, forecasts of revenues and cash flows for a DCF-based approach to valuation need to be based on a reasonable future time period. A period of at least seven years is not unusual.

(c) Assumptions will have to be made about the rate of future growth in the business; however in order to grow the business it will probably need to re-invest a large proportion of its profits. The need to reinvest for growth will affect the expected cash returns from the business for its owner(s).

Once growth rates have been estimated, the next step is to decide on the most suitable approach (or approaches) to a valuation.

(a) An asset-based method may not be appropriate because the start-up may not have many assets. A purchaser would be paying for expected future profits and cash flows, not for the start-ups assets.

(b) There will also be difficulties with a market approach to valuation (P/E ratio multiple or EBITDA multiple method). This approach would involve finding other start-up businesses in the same industry that have recently been sold through private transactions, and obtaining information about
the purchase price for these businesses. The difficulties include finding suitable comparable start-ups and the lack of public disclosures about purchases of start-ups.

(c) A start-up does not have a history of profit. So instead of making a valuation on a P/E ratio multiple, it may be appropriate to value the company on a multiple of its current or expected annual sales revenue (a price-to-revenue ratio multiple).

(d) A DCF approach to valuation could be used, but only if the start-up is expected to achieve positive cash flows in the near future, and only if these cash flows can be estimated with reasonable confidence in their probable accuracy.

The previous examples of valuations of acquisitions based on free cash flows have suggested that the following measures are required to make a valuation:

<table>
<thead>
<tr>
<th>Measurement method</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate the free cash flows from the company's existing assets</td>
<td>Many young companies have few assets, which do not generate much revenue yet and cash flows may be negative.</td>
</tr>
<tr>
<td>Calculate the expected future cash flows that will be earned from growth in the business – from new investments that the company will make in the future and also from improved efficiency in the use of existing assets</td>
<td>Making estimates of future cash flows from a start-up business is extremely difficult and subject to significant forecasting error</td>
</tr>
<tr>
<td>Apply a discount rate to the estimated future free cash flows to obtain a present value for the business</td>
<td>The equity of start-up companies does not have a beta that can be measured with accuracy or reliability. Beta factors for quoted companies are measured statistically from historical data and correlation with average market returns. This is not possible for small, start-up private companies</td>
</tr>
<tr>
<td>When future annual cash flows are expected to stabilise, a terminal value can be calculated for all annual cash flows in perpetuity from that time</td>
<td>It is difficult to assess when the annual cash flows of a young start-up company will eventually stabilise. There is even a high risk that the business will fail</td>
</tr>
</tbody>
</table>

So the problems of valuation are large. Even so, a number of approaches can be used. These will be described briefly.

### 7.3 Entry cost valuation method

When an acquirer is seeking to enter a new sector of the market for the first time, it may consider buying a start-up company in order to establish a business in the market more quickly.

In this situation, a useful method of valuation may be to consider what it would cost to enter the market as a new business. The valuation of the start-up business would then be based on the costs that the company would incur to enter the market and establish a new business itself. These entry costs might include:

- Costs of raising the finance
- Cost of purchasing assets for the business
- Cost of development of new products
- Costs of recruiting and training employees
- Marketing costs of establishing a customer base (if the start-up company that is being valued already has some customers).
7.4 The venture capitalist's approach to valuation

A venture capitalist considering an investment in a start-up company may take the following approach to valuation of the company, for the purpose of deciding the share of the company's equity it will require in return for its investment.

**STEP 1**
Estimate expected earnings and revenues of the company in a future year, when the company has hopefully entered a high-growth phase in its business. This may be a year between two and five years in the future, which will normally be the year when the venture capitalist might want to exit and sell its investment.

**STEP 2**
Estimate a value for the company at the end of this year. The estimate uses public companies in the same industry as a benchmark, and the valuation is made by applying:
- A P/E ratio multiple to forecast earnings in the year, or
- An enterprise value to sales revenue ratio to forecast revenue in the year.

**STEP 3**
Discount this estimated valuation for the business at the end of the forecast year to a present value. The discount factor is very high, to allow for the high risk in the investment. Even for companies that are expected to be high-growth, the cost of capital may be 35% to 50%.

**STEP 4**
Decide how much investment the venture capitalist intends to make. The valuation of the business after this investment = the Valuation in Step 3 (A) + the new capital investment by the venture capitalist (B). The share of the company's equity that the venture capitalist will ask for = B/(A + B).

7.4.1 First Chicago method of start-up valuation

The First Chicago method is an approach to the valuation of high-risk high-growth start-ups, which can be summarised as follows:

- A would-be purchaser of a high-growth start-up business makes three sets of estimated future cash flows and returns from the investment. The three sets of returns are based on a best case scenario, a worst case scenario and a 'base case' scenario.

- For each of these three scenarios, estimates of returns on the investment are made for a given number of years, and an exit value or terminal value for the business is also estimated for the end of this forecast period.

- The cash flows for each scenario are discounted to a present value, using a risk-adjusted discount rate.

- A probability estimate is made for the three scenarios: for example 30% worst case, 50% base case and 20% best case.

- A valuation is obtained by calculating the expected value of the PVs of the three scenarios.

- The resulting valuation is compared (cross-checked) with other known information about business valuations, to assess the valuation for realism.
7.5 A top-down approach to valuation of start-ups

An alternative approach to valuation for an acquirer of a start-up business is a top-down approach. This begins by looking at the potential total market for the product that the start-up company produces. The total market may be defined broadly, and may include a number of well-established public companies, such as software companies specialising in a particular type of software.

The product of the start-up company is defined in terms of the benefits that it will provide customers and the customer needs that it will satisfy.

The next step in the valuation is to estimate the potential market size for the market or market segment in which the company's product will compete, and how this might grow or evolve over time.

Having estimated a potential market size, the next step is to estimate the share of this market that the start-up company may capture. From this estimates of annual revenue are prepared covering a forecast period of perhaps ten years.

The next step is to estimate operating expenses and profit margins over the forecast period, until the company is expected to achieve a ‘steady state’. In addition, capital expenditure estimates are made for the estimated amount of capital investment required to enable the company to achieve the forecast revenue figures.

Estimates of cash flows should include taxation, and the effect of losses and new investment in the early years of development on the tax liabilities of the potential acquirer. The cash flow benefits for the acquirer's group of tax losses in a start-up acquisition may be significant.

Having produced forecasts of cash flows up to a year when the company may be expected to achieve ‘steady state’ annual free cash flows, so that a terminal value can be estimated, a valuation is produced using DCF to obtain a present value.

A cost of capital may be estimated using the Modigliani-Miller formulae, but the level of business risk will be very high, and the estimated Equity Beta and any debt beta will also be very high.

7.6 A bottom-up approach to valuation of start-ups

A potential acquirer of a start-up business may take a bottom-up approach rather than a top-down approach to valuation.

This begins with an estimate of the investment capacity and output capacity of the company, and how this may increase over time.

The next step is to make forecasts of annual sales revenue over a period of several years, perhaps ten years. The valuer builds up a financial forecast based on estimates of:

(a) Output capacity
(b) Annual revenue and unit sales
(c) Operating costs
(d) Taxation
(e) Additional investment of capital required to sustain growth in output capacity

The forecast should go up to a year where the company may be expected to achieve ‘steady state’ operations, so that a terminal value can be estimated.

Estimates of free cash flows are made from this forecast, a valuation for the company is obtained by discounting the free cash flows to a present value. The discount rate may be estimated by calculating an ungeared beta for the industry and applying an estimated geared beta for the start-up company to obtain a cost of capital.

It may be apparent, however, the valuation of start-up companies is based on a large number of estimates and assumptions. Inevitably, acquiring start-up companies is a high risk investment, even when the young company has reached a high growth stage in its business development.
7.7 Earn-out arrangements

Because of the uncertainty about future revenue and profits for a start-up business, the purchase consideration may not be paid in full at the time of the acquisition. A part of the purchase consideration may be:

(a) Deferred, and  
(b) Dependent on the performance of the business over a period of a few years

‘An earn-out arrangement is a procedure whereby owners/managers selling an entity receive a portion of their consideration linked to the financial performance of the business during a specific period after the sale. The arrangement gives a measure of security to the new owners, who pass some of the financial risk associated with the purchase of a new enterprise to the sellers’ (CIMA Official Terminology).

For example, the consideration may be structured as follows.

(a) An initial amount payable at the time of acquisition  
(b) A guaranteed minimum amount of deferred consideration, payable in, say, three years’ time  
(c) An additional amount of deferred consideration, payable if a specified target performance is achieved over the next three years, for example if the acquired company’s average profits or revenues over the next three years exceed a certain amount

This method of payment would only be appropriate if:

(a) The acquired company operates independently of the acquirer company, at least for the period upon which the deferred consideration is based, and  
(b) The former owners of the acquired company remain as senior managers of the acquired company.

Under an earn-out arrangement, the overall valuation of the business has a variable element. The acquirer needs to estimate the minimum, maximum and expected total amounts it may have to pay, with corresponding probabilities relating to the likelihood of the business reaching the specified targets. In particular, they will have to ensure that they could, if necessary, afford to pay the maximum amount.

SECTION SUMMARY

Start-up businesses are particularly difficult to value, even when they are in a high-growth stage of their development. They do not yet have a successful track record in business, and their existing business may have very little value. The main value lies in the potential for significant future growth in revenues and earnings. Unfortunately, these are difficult to estimate reliably. In addition, due to the high risk nature of start-ups, expected future cash flows should be converted to a present value using a discount rate that allows for the high risk.

There are several possible approaches to valuation, but the difficulties with obtaining a reliable valuation are the same for each of these methods.

8 Bargain purchases

SECTION INTRODUCTION

This section considers briefly the purchase of companies in distress for less than the fair value of their net assets.
A bargain purchase is the purchase of a company for less than the fair value of its net assets. Although it should be a rare event, a business may occasionally be purchased for a price that is lower than the fair value of the net assets acquired. This could happen when the acquired company is in serious financial difficulties and faces a serious risk of insolvency.

Instead of selling the business for less than fair value, its owners may prefer to liquidate the company and sell off the assets. However:

- The realisable value of the net assets may be less than the fair value of the assets in an ongoing business: in other words, fair value may not be a measure of disposable values.
- It may not be possible to find buyers for the assets, especially within a short time.

When a bargain purchase occurs, FRS 103 Business Combinations states that the acquirer should recognise the difference between the fair value of the acquisition and the actual purchase price as a gain in profit or loss on the acquisition date.

9 The conduct of takeovers

SECTION INTRODUCTION

This section summarises the reasons why regulation of the conduct of takeovers and mergers is desirable.

The conduct of takeovers varies. It differs between acquisitions of small private companies and large quoted companies. It also differs according to whether the takeover is ‘friendly’ or ‘hostile’. A hostile takeover bid is one where the board of directors of the target company oppose the proposal for the takeover and try to persuade their shareholders to reject the offer. In a friendly takeover, the board of the directors of the target company is willing to discuss an offer, negotiate on the terms of the offer and recommend the agreed terms to their shareholders for acceptance.

The equity shareholders in the target company have the final decision about whether or not to accept a takeover offer for their shares. If the offeror company obtains acceptances for more than 50% of the shares, it will obtain control of the offeree company. (However, an offeror may make it a condition of an offer that there must be acceptances from shareholders owning a minimum proportion of the shares: for example, that there must be acceptances for at least 75% of the shares.)

The steps in a takeover bid may be as follows.

(a) A company identifies a potential target for a takeover bid. After investigating the company, the board of directors (or senior management) decide the terms of an offer, including the offer price and the payment consideration (cash, shares or bonds) and the method of financing the takeover, if the offer is accepted.

(b) The offeror company makes an offer for the shares in the target company to the board of directors of the target company. The offer is conditional on receiving acceptances for a minimum number of the shares, which must be at least more than 50% (in order to gain statutory control).

(c) The board of the offeree company respond to the offer either favourably or unfavourably.

(d) If the takeover is ‘friendly’, a formal offer is made to the shareholders in the offeree company. The offer is formally supported by the board of directors of the offeree company. The shareholders are given a period of time in which to decide whether or not to accept the offer. The offer succeeds and the takeover occurs if the offeror company receives the required minimum number of acceptances.
(e) If the takeover is ‘hostile’ the board of directors of the offeree company will try to persuade their shareholders to reject the offer. They will usually argue that the offer is too low, and under-values the company. The offer is made to the shareholders of the offeree company, who make their decision about whether or not to accept.

These steps in a takeover bid may seem straightforward and reasonable. However there is a risk of improper, unfair and unethical conduct by either the offeror or the board of directors of the offeree company.

(a) The offeror may not make a formal offer for all the shares in the target company. Instead, it may build up a controlling stake in the company secretly, using a number of different associated individuals or companies to acquire shares. These shareholders, acting in concert with each other, might suddenly announce that they have obtained a controlling interest in the shares of the company.

(b) The offeror may offer different prices to different shareholders in the target company. For example, the offeror may offer a higher price to a large shareholder in the target company, to win the shareholder's acceptance and agreement to sell. It might offer a lower price to the other shareholders.

(c) The offeror might acquire a controlling interest in the offeree company, say 95% of the shares, and refuse to buy the remaining shares of the shareholders who have not yet accepted the offer. These shareholders would then be a small and weak minority interest in the acquired company.

(d) The offeror might offer to buy shares in the offeree company in exchange for new shares in the offeror company, but refuse to make an alternative cash offer for the shares.

(e) The offeror company may have close personal connections with the board of directors of the offeree company. For example, directors of the offeror company may also be directors of the offeree company. These directors may support the takeover bid and recommend it to shareholders in order to promote their personal interests rather than the interests of the company and its shareholders as a whole.

(f) The board of the offeree company may also act improperly in response to a hostile takeover bid. For example they might refuse to pass on the terms of the offer to their shareholders. Alternatively they might try to persuade their shareholders to reject the offer by making over-optimistic and unrealistic forecasts of the future profitability of the company – in order to persuade their shareholders that the offer price is too low.

The main risk with improper behaviour in a takeover bid is that the shareholders, especially the shareholders in the target company, will be treated unfairly or that some shareholders will receive more favourable treatment than others.

9.1 Due diligence

When a company is considering an acquisition, it should carry out ‘due diligence’. This refers to a detailed investigation and research into the available documentation, history and future of the target business to inform the acquisition process and purchase price.

Preliminary due diligence should be conducted before making an initial offer to the board of directors of the target company. This will involve finding out as much as possible about the company from the information that is available. The results of the due diligence exercise will influence the decision about whether to make an offer to acquire the target business, and if so the price that should be offered.

If the board of the target company indicate a willingness to accept the offer, the two parties should sign ‘heads of agreement’ that set out the main terms of the acquisition that the parties have agreed, subject to due diligence by the purchaser and approval of the takeover by the target company shareholders. The heads of agreement should include:

- Details of what the purchaser has agreed to buy – specific assets or the business as a whole; and whether any cash or near-cash assets of the target company will be included.
- The purchase price and the form of the purchase consideration (for example cash or shares).
• Any pre-conditions that the buyer may insist on. These may include a requirement that the target company will report a minimum rate of revenue growth or profits growth for a period for which financial results will soon be reported.

In a ‘friendly’ takeover, the board of the target company will allow the purchaser to carry out further due diligence. This will include inspecting the company’s accounting records and assets, and speaking to major customers and suppliers. There may also be an employee audit and legal due diligence (ie checking that the target company is the legal owner of certain assets, such as land and buildings or patents). The due diligence exercise may be carried out by a firm of accountants.

Post-acquisition due diligence is also often undertaken as, once owned by the acquirer, the acquirer often has access to more information than was available pre-acquisition. The aim is to better inform the post-acquisition integration process and help identify future objectives.

SECTION SUMMARY
Regulation of merger and acquisitions is desirable to protect shareholders, especially the shareholders in a target company, against unfair and unethical treatment.

10 Regulation of mergers and acquisitions

SECTION INTRODUCTION
There are two main aspects to regulation of mergers and takeovers. One is the need to protect shareholders in a target company from unfair treatment by the offeror company and the board of directors of the offeree company. The second aspect is the need to protect consumers against anti-competitive behaviour by companies that may control the market after a successful takeover or merger.

Two aspects of mergers and takeovers are subject to regulation in many countries:
(a) Regulation of the conduct of mergers and takeovers
(b) Regulations to protect consumers against the creation of anti-competitive businesses or monopolies that are not in the public interest

10.1 Singapore Code on Take-overs and Mergers
Many countries have a code of conduct for mergers and takeovers that are intended to protect shareholders from unfair treatment during a takeover or merger process. These codes are voluntary, but are enforced by a supervisory authority. The codes also apply only in cases where the target company in a takeover bid is a company with a mainboard listing, or where a merger involves a company with a mainboard listing.

The Singapore Code on Take-overs and Mergers is issued by the Monetary Authority of Singapore, and administered and enforced by the Securities Industry Council and its secretariat.

Very similar takeover codes exist in other countries and regions such as the UK and Hong Kong.
(a) The objective of the Singapore Code is to ensure fair and equal treatment of all shareholders in a takeover or merger.
(b) The Code does not have the force of law, but major companies are expected to comply with its rules, and may be subject to disciplinary action for any breach of the rules.
(c) All companies, including private companies, are encouraged to apply the principles of the code, but there is no enforcement regime except where listed companies are concerned.

(d) Responsibility for compliance with the Code rests with the parties involved in a takeover or merger, including the directors of both companies and advisers to the companies, such as investment banks.

The Singapore Code consists of a number of general principles supported by specific rules.

Some of the general principles in the Singapore Code are as follows:

(a) It is the duty of company directors and their advisers to act in the best interests of their company. The offeror must give equal treatment to all shareholders of the same class in the offeree company.

(b) When an individual or company (acting perhaps with others in concert) obtains effective control over the offeree company, a general offer to all the shareholders in the offeree company is normally required.

(c) When the board of an offeree company receives a genuine offer, it must not take action to frustrate the offer and must not deny their shareholders the opportunity to decide whether to accept the offer.

(d) The directors of the companies involved must have regard to the interests of the shareholders as a whole, and not to their personal or family interests.

Some of the specific rules in the Singapore Code are, briefly:

(a) An offer to acquire a target company must be made initially to the board of the offeree company or its advisers. The offeree company board is entitled to check and satisfy itself that the offeror will be able to implement the offer in full.

(b) There are rules about making a public announcement of an offer. Once an intention to make an offer is announced, it cannot be withdrawn without the consent of the Securities Industry Council.

(c) The directors of the offeree company must obtain independent advice about the terms of the offer, and make the substance of this advice known to their shareholders.

(d) If the board of the offeror company has conflicts of interest such as cross-shareholdings with the offeree company or the same directors on both boards, it should also obtain independent advice about the takeover.

(e) A voluntary offer must be conditional on the offeror acquiring more than 50% of the voting rights in the offeree company.

(f) A person or company must make an offer for the remaining shares in a company when he/it acquires 30% or more of the voting rights in the company. Similarly, a mandatory offer must be made for the remaining shares when a person who owns between 30% and 50% of the voting rights acquires shares within any six month period with 1% or more of the voting rights.

(g) If an offeror has purchased 10% or more of the shares in a target company during the offer period or within six months prior to the beginning of the offer period, it must make a cash offer for the remaining shares on terms that are no less favourable than the highest price it has paid in the market.

The general principles and rules listed above should indicate the nature of regulation of the conduct of takeovers, but it is also important to remember that the Code only applies to companies with a primary listing.

10.1.1 Revisions to Singapore Code on Take-overs and Mergers

In February 2016, the Monetary Authority of Singapore (MAS) issued a revised Code on Take-overs and Mergers, which took effect from March 2016. The key changes to the Code were designed to:

(a) Provide greater certainty on timelines

- In a competitive situation, the offer timetables will be aligned to that of the latest offer
- Prescribing a default auction procedure if neither offeror has declared its final price in the later stages of the offer period
(b) Encourage offeree company boards to take a more active role in safeguarding shareholders’ interests
   - An offeree board may consider sharing available management projections and forecasts with its independent financial adviser
   - Soliciting a competing offer or running a sale process does not amount to a frustration of the existing offer

(c) Require prompt disclosure of any material change to information previously published in an offer, to ensure that shareholders and investors are apprised of material information on a timely basis

WEBSITE

If you are interested in looking at the Take-overs Code in more detail, you may find it useful to look at an explanatory document produced by the law firm Clifford Chance. The document can be found at:


10.2 Competition Act: regulation of anti-competitive practices

Companies that are considering a takeover or merger may need to consider whether it could breach competition law.

A proposed merger or takeover may be referred to regulatory authorities when there is concern that it will damage competition in the industry. The authorities may prevent any such takeover or merger from proceeding.

Competition law is intended to protect consumers and businesses from anti-competitive practices, such as the creation of a monopoly that can control supply of a product to the market and charge excessive prices.

Many countries have anti-competition laws, but the laws vary in detail between countries. In Hong Kong for example, the Competition Ordinance 2012 has rules against serious anti-competitive conduct such as price fixing, market sharing, bid rigging and output restriction, but it does not have any rules to restrict mergers (except in the telecommunications industry).

Singapore's Competition Act, which is enforced by the Competition Commission Singapore, prohibits:

(a) Anti-competitive practices
(b) Abuse of a dominant market position
(c) Mergers and acquisitions that substantially lessen competition: proposed mergers should be notified to the Commission.

SECTION SUMMARY

Singapore, like most other countries, has regulations for the conduct of mergers and acquisitions involving stock market companies. It also has regulations to prevent anti-competitive behaviour, including power for the regulatory authority to prevent a merger or acquisition that would significantly reduce competition in a market.

Companies need to be aware when planning a takeover or merger that the proposed business combination may be referred to the regulatory authorities and may be prevented from going ahead.
11 Intangible assets and purchase price allocation

SECTION INTRODUCTION
With many acquisitions, it is necessary to establish a fair value for intangible assets in the acquired business. This section looks at the ways in which intangibles may be valued, and how the purchase price for an acquired business is allocated between tangible assets, intangible assets and goodwill.

11.1 Reasons for valuation of intangible assets
There are many different types of intangible asset:
(a) Contract-based intangibles include licences, royalty agreements, service contracts and operating rights and franchises: these are rights based on a contractual agreement between two parties.
(b) Marketing-related intangibles include Internet domain names, brands and trademarks.
(c) Technology-based intangibles include patents and databases.
(d) Customer-related intangibles include customer lists, contractual relationships with customers and order backlogs.
(e) Artistic-related intangibles include copyright to music, films and other intellectual property.

There are two main reasons for the valuation of intangible assets in an acquisition.
(a) The value of the intangible assets of the acquired business may be very high, and so may affect the price that the buyer is willing to pay.
(b) On acquisition, the purchase price is allocated between tangible assets, intangible assets and goodwill: establishing a fair value for the intangible assets is therefore necessary for the purpose of financial reporting.

Intangible assets can sometimes be the most valuable part of an acquired business. For example when in 2012 the Walt Disney Company purchased Lucasfilm (a private company that owned the rights to the Star Wars franchise) the intangible assets acquired were valued at US$2.3 billion out of the total purchase price of US$4.1 billion. Similarly in 2009 the Canadian company Nortel Networks filed for bankruptcy having lost US$6 billion in 2008: in the subsequent break-up of the business Nortel's patents (for example patents on mobile technology) sold for US$4.5 billion in cash, much more than the break-up value of the company's other assets.

Occasionally one company may agree to sell intangible assets, such as patent rights, to another company, without selling the entire business. In this situation the buyer and seller need to agree a purchase price for the assets.

The owner of rights to future revenue, such as the right to future royalties on music or film, may occasionally securitise these rights: in a securitisation issue bonds are issued by a Special Purpose Vehicle (SPV), and purchased by investors. The cash from the bond issue is paid to the seller of the future revenue streams and the total value of the bonds issued by the SPV represents what the market considers to be the value of the future income from the intellectual property.

11.2 Approaches to valuation of intangible assets
Fair value is defined by FRS 113 Fair value measurement as the 'the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date'.
Intangible assets (and also biological assets, discussed later) are very difficult to value, because it is very difficult to obtain reliable market comparisons, or make reliable present value estimates of the expected future income streams from the assets.

There are three possible approaches to fair valuation:

- Market approach
- Income approach
- Cost approach

These are similar to the approaches to business valuations described earlier in Chapter 3.

### 11.2.1 Market approach

A market approach is to estimate the value of an intangible with reference to market valuations or transactions involving the sale of comparable intangible assets. For example a valuation may be based on a multiple of current annual revenue or earnings from the asset (or a multiple of expected future annual revenue or earnings); and the multiple would be obtained by comparing the sale value of the asset in the comparable transaction with the annual revenue from the asset.

A market approach is not often used for intangible assets, because there are an insufficient number of comparable market transactions, making it difficult to estimate what is 'normal' for the market. Intangible assets can differ in asset-specific risk characteristics and have differing remaining economic lives, so it may not be possible to find suitable comparable assets in a market transaction.

### 11.2.2 Income approach

An income approach to valuation is based on the expected future income or revenue streams from the intangible asset, discounted to a present value.

This approach is the most common valuation method for intangibles. However estimates are required of either:

- The future income/revenue streams from the asset over its expected remaining economic life, or
- The expected future savings obtained by acquiring/purchasing the intangible asset.

There are different approaches to valuation:

(a) One approach is to estimate the future cash flows that will come from the asset, after tax, and discount these to a present value: this is known as the incremental cash flow method of valuation.

(b) Another method, known as the multi-period excess earnings method (MEEM), estimates the value of an intangible asset as the present value of the excess cash flows attributable to the subject intangible asset after excluding cash flows that are attributable to the contributory assets employed to realise the net income.

With this approach, the revenue forecasts from the intangible asset are estimated. ‘Contributory asset charges’ are deducted from these revenue estimates: these are charges that are an estimate of the cash flows attributable to supporting assets of the intangible asset. Taxation is deducted to obtain the excess earnings from the intangible asset, and the resulting cash flows are then discounted to obtain a present value.

(c) The relief from royalty method may be used to value trade names or patents. This begins with an estimate of future revenue from the intangible asset. The annual revenue estimates are then converted into pre-tax profit/cash flow, applying an appropriate royalty rate. This rate will depend on factors such as customer recognition and awareness, the size of the market (and the strength of competitive brands), advertising expenditure on the brand, the legal protection for the trade name, and so on. Tax is deducted and the after-tax profits are discounted to a present value.

Although the income approach to valuation is the most common method used for intangible assets, there are problems with its use. It may be difficult:
To estimate reliably future revenue and cash flows from the asset

- In some cases, to establish the remaining useful/economic life of the asset
- If the relief from royalty method is used, to establish an appropriate royalty rate
- To decide an appropriate discount rate for calculating a present value of the future income
- For the purpose of financial reporting, to establish whether there will be a tax amortisation benefit, so that a deferred tax asset is also created on acquisition of the intangible asset(s)

Valuations can be unrealistic, and it is strongly recommended that a ‘common sense’ reasonableness check be applied to the valuation that has been made. Does it seem to make sense? Can it be compared with the value of anything else, to assess whether the valuation seems reasonable, and not excessive (or too small)?

11.2.3 Cost approach

A cost approach values the asset at reproduction cost (ie the cost of creating the asset again) or replacement cost, adjusted for amortisation/obsolescence.

This is the least common approach to valuation of intangible assets, although it may be used to value intangibles that do not contribute directly to cash flows.

It may also be used to provide a comparable valuation as a reasonableness check on a valuation obtained using an income method.

11.3 Financial reporting: purchase price allocation

For financial reporting purposes, FRS 113 *Fair value measurement* requires that in the acquisition of another business, all acquired recognisable assets and liabilities should be valued at fair value. Intangible assets may be recognised and created.

There are certain recognition criteria for deciding when an intangible asset can be recognised and created. The asset must be:

- Identifiable
- A contractual or legal right, or a separable item (capable of being separated from the acquired entity)
- Under the control of the acquirer, and
- Expected to provide future economic benefits

Some items cannot be recognised as intangibles, such as a presence in a geographical market or location (such as a prime site store location), ability to access financial markets, or favourable relationships with a government.

If the value of an intangible cannot be determined reliably, it should not be recognised, and its acquisition is accounted for as part of the goodwill arising.

The purchase price allocation on an acquisition is as follows:

\[
\begin{array}{c|c|c}
\text{Purchase price} & \$ & X \\
\hline
\text{Fair value of tangible assets} & X \\
\text{Fair value of intangible assets} & X \\
\text{Fair value of liabilities} & (X) \\
\hline
\text{Goodwill} & X \\
\end{array}
\]
After acquisition:

(a) Intangible assets with a definite life are then amortised over their expected useful life.
(b) Goodwill and other intangible assets with an indefinite life are not amortised, but are subject to annual impairment review.

### Question 7.3

Dexter has recently acquired Flexichem, a small company with a strong reputation that specialises in pharmaceutical drug research and development. The purchase consideration was by way of a share exchange and valued at SGD 35 million. The fair value of Flexichem's net assets was SGD 15 million, excluding the items described below.

Flexichem owns a patent for an established successful drug. A firm of specialist advisors has estimated the current value of this patent to be SGD 10 million, but Flexichem is awaiting the outcome of clinical trials where the drug has been tested to treat a different illness. If the trials are successful, the value of the drug is estimated to be SGD 15 million. Also included in Flexichem's accounts is an investment of SGD 2 million for medical research that has been conducted on behalf of a client and which will lead to additional revenue.

How would these various items be valued within the total purchase consideration?

### 11.4 FRS 41: Agriculture

FRS 41 encompasses the accounting treatment of biological assets and agricultural produce. A company may make an acquisition of a business that is engaged in agriculture, and the acquisition value may include biological assets and, possibly, agricultural produce.

- Biological assets are living animals or living plants that will eventually be transformed into agricultural produce. It includes livestock, such as sheep and pigs, plants that will be gathered at harvest time, fruit growing on fruit trees and trees in a planation forest. Biological assets eventually become agricultural produce.

- Agricultural produce is produce at the point of the harvest. It includes wool taken from sheep, felled trees, cotton picked from cotton plants, picked fruit, tea leaf, and so on.

FRS 41 requires that biological assets should be valued for financial reporting purposes at fair value less the estimated costs to sell. Agricultural produce should be valued at fair value less the estimated costs to sell at the point of harvest. Gains on the recognition of biological assets (and agricultural produce) and changes in fair value should be reported through profit or loss.

After harvest time, agricultural produce becomes inventory, and should be valued in accordance with FRS 2: Inventories.

Until FRS 41 was amended in 2014, biological assets included bearer plants: these are plants that are used to grow agricultural produce, but which are expected to be in used in the business for more than one year. Examples are fruit trees and grape vines. Due to problems with the effect of fair asset revaluations on reported profits, FRS 41 now excludes bearer plants, which should be accounted for in accordance with FRS 16: Property, plant and equipment.
SECTION SUMMARY

In a merger or takeover, it may be necessary to carry out a valuation of intangible assets, and possibly also biological assets. An important reason for valuation is to allocate the purchase price of an acquisition between tangible assets, identifiable intangible assets and goodwill. Reliable valuation of these assets is difficult. There are different approaches, but all rely on assumptions and estimates. In answering an examination question on this subject, be prepared to discuss the difficulties of valuation and the assumptions that you use.
Quick Quiz

1. Why might growth through acquisition be less risky than organic growth for a company wishing to diversify?

2. Why is there a risk of conflict of interest in a takeover bid?

3. Give an example of financial synergy arising from a successful major acquisition.

4. What is free cash flow?

5. The cost of capital is 10%. A company expects to achieve annual growth in cash flows of 2% per year in perpetuity from year 3 onwards (starting in Year 4). What discount factor should be used to convert the future cash flows from Year 4 onwards in perpetuity into a Year 0 present value?

6. Why is lack of a business track record a problem when trying to value a start-up business?

7. Give two examples of anti-competitive behaviour.
Answers to Quick Quiz

1. Organic growth is difficult in a product-market area where a company has no previous experience. It can also take a long time. With an acquisition of a company in a different product-market area, the risk is lower because the acquirer purchases an existing business. The acquiring company obtains immediately the existing expertise, experience and a customer base of the acquired company.

2. The directors of the offeror company may put personal interests ahead of the interests of the company as a whole if they want the takeover to succeed so that they will become directors of a larger company, with more status and higher remuneration. There may also be conflicts of interest when there are cross-shareholdings between the two companies or when some directors sit on the boards of both companies.

3. Cheaper financing costs because investors and lenders may be more willing to finance a larger and more 'secure' business.

4. Free cash flow is cash that is available after all other necessary payments have been made. Free cash flow for a company may be calculated as:
   - Operating profits
   - Plus depreciation (and amortisation)
   - Minus essential capital expenditure to maintain the business and achieve the expected growth in revenues
   - Minus taxation

   Free cash flow for equity is free cash flow for the company minus interest payments on debt capital.

5. Year 3 PV factor for cash flows from Year 4 in perpetuity = \(1/(0.10 - 0.02) = 12.5\)

   To convert this to a Year 0 value, apply the Year 3 discount factor at 10% = \(1/(1.10)^3 = 0.751\)

6. The business is probably making a loss and its cash flows are negative, so its existing assets have no current value. Without a track record it is very difficult to estimate revenues, costs and free cash flows in the future.

7. Price fixing by a cartel of companies; restricting supply of goods to a market in order to raise prices; agreements between large companies on the share of the market for each company; rigging bids for contracts.
Answers to Questions

7.1

Number of shares to be issued = 6m \times \frac{1}{3} = 2 \text{ million}
Total number of shares in issue after takeover = 20m + 2m = 22 \text{ million}
Cash payment = $2 \text{ million}
Assumed value of combined company after takeover = $(200m + 18m + 12m - 2m) = $228 \text{ million}
Value of 1,000 shares after takeover = $228m \times \frac{1,000}{22,000,000} = $10,364

Share value
Cash

10,364
1,000

$11,364

Value of 3,000 shares before take over (3,000 \times $3) = 9,000
Expected gain in value for Company S shareholder for 3,000 shares held = 2,364

7.2

Calculate Asset Betas of both companies

Assuming a beta of 0 for debt capital, the Asset Betas for each company can be calculated using the following formula.

$$\beta_a = \beta_g \times \frac{V_e}{V_e + V_d(1-t)}$$

Tango

$$\beta_a = 1.68 \times \frac{300}{300 + 360(1-0.20)} = 0.857$$

Sierra:

$$\beta_a = 2.50 \times \frac{100}{100 + 60(1-0.20)} = 1.689$$

Value of Tango (in $million) = $300 + $360 = $660
Value of Sierra (in $million) = $100 + $60 = $160
Total value both companies pre-acquisition (in $ million) = $820

Weighted average Asset Beta =

$$0.857 \times \frac{660}{820} + 1.689 \times \frac{160}{820} = 1.02$$
Re-gear beta to reflect group post-acquisition gearing

Total debt (in $millions) = 360 + 60 + 120 = 540
Total equity (in $millions) = 300 + 100 = 400

Geared beta of combined company = Asset Beta + (Asset Beta – Debt beta) \times (1 – t) \times \frac{\text{Total debt}}{\text{Total equity}}

= 1.02 + [(1.02 – 0) \times (1 – 0.20) \times (540/400)]
= 2.122

(Note: Remember to include the additional debt capital that will be obtained to finance the acquisition.)

Calculate the group’s new WACC

\( k_e = 4\% + (2.122 \times 3.5)\% = 11.43\% \)

\( \text{WACC} = (11.43\% \times 400/(400 + 540)) + [6\% \times (1 – 0.20) \times 540/(400 + 540)] \)

= 4.864\% + 2.757\%
= 7.621\%, rounded to 8\%

Discount group’s post-acquisition cash flows using this WACC

<table>
<thead>
<tr>
<th>Year</th>
<th>$m</th>
<th>$m</th>
<th>$m</th>
<th>$m</th>
<th>$m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free cash flow</td>
<td>30.0</td>
<td>40.0</td>
<td>50.0</td>
<td>70.0</td>
<td>71.05 then + 1.5% per year</td>
</tr>
<tr>
<td>Annuity factor</td>
<td>1/(r-g) = 1/(0.08 – 0.015)</td>
<td>15.385</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal value as at time 4</td>
<td></td>
<td>1,093</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount factor at 8% (mid-year factors)</td>
<td>0.962</td>
<td>0.891</td>
<td>0.825</td>
<td>0.764</td>
<td>0.764</td>
</tr>
<tr>
<td>PV</td>
<td>28.9</td>
<td>35.6</td>
<td>41.3</td>
<td>53.5</td>
<td>835.1</td>
</tr>
<tr>
<td>Total PV</td>
<td>994.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of debt in group</td>
<td>(540.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net value</td>
<td>454.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value of the equity in the combined companies would be about $455 million. The current value of equity in Tango is $300 million; therefore the acquisition would be expected to increase shareholder value considerably. These estimates depend on many assumptions, including estimates of the expected synergy following the acquisition. It may be advisable to carry out some sensitivity analysis on the free cash flow estimates, to assess the effect on the valuation if these estimates are incorrect and over-optimistic.
7.3

The following assets will be recognised as part of the purchase consideration:

<table>
<thead>
<tr>
<th>Asset</th>
<th>SGD m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of net assets</td>
<td>15</td>
</tr>
<tr>
<td>Patent at fair value</td>
<td>10</td>
</tr>
<tr>
<td>Research carried out for customer</td>
<td>2</td>
</tr>
<tr>
<td>Goodwill (balancing figure)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total consideration</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

The patent is recognised at its fair value at the date of acquisition. The higher value of SGD 15m cannot be used because it depends on the successful outcome of the clinical trials.

Although research is not capitalised, this research has been carried out for a customer and should be recognised at the lower of cost and net realisable value.

The goodwill is capitalised at cost.
PART C
Governance and Responsibility
Corporate governance is the framework by which a company is directed and the rights and responsibilities of its different stakeholders, particularly the Board of Directors, the equity shareholders, the company's management and regulators. Other important stakeholders are employees, customers and suppliers.

Corporate governance also encompasses rules and procedures for making decisions about the objectives of the company, and achieving a balance between the objective of profit and the need to manage risk.

There should be concern about corporate governance in all countries with a stock market, to ensure that the Board of Directors acts in the interests of the company's shareholders and other stakeholders. Principles of good governance can also be applied to entire groups of companies, public sector organisations and not-for-profit entities although the objectives and practices of governance differ between commercial companies and non-commercial entities.

This chapter considers the nature of governance and the benefits of good corporate governance.

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<th>Topic list</th>
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<tr>
<td>1 The nature of corporate governance</td>
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<td>2 Principles of good corporate governance</td>
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<td>3 Stakeholders in a company</td>
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<td>4 Corporate governance and political stability</td>
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<td>5 G20/OECD Principles of Corporate Governance</td>
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<td>6 The Asian Roundtable</td>
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<td>7 Group governance</td>
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<td>8 Governance in the public sector and NGO sector</td>
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</table>
### Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
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<tbody>
<tr>
<td><strong>Scope of Corporate Governance</strong></td>
<td></td>
</tr>
<tr>
<td>Explain, apply and analyse the purpose of corporate governance in the Asian</td>
<td></td>
</tr>
<tr>
<td>context, especially in relation to:</td>
<td></td>
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<tr>
<td>- How strong corporate governance and stakeholder relations can help entities</td>
<td>3</td>
</tr>
<tr>
<td>plan for the long term and make better investment decisions;</td>
<td></td>
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<tr>
<td>- Balancing the need for timely decision making with avoidance of power abuse;</td>
<td></td>
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<tr>
<td>- How confidence in the corporate governance of an entity can reduce perceived</td>
<td></td>
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<tr>
<td>business risk and impact on valuation;</td>
<td></td>
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<tr>
<td>- Different stakeholder attitudes to the value-added of corporate governance</td>
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<tr>
<td>procedures;</td>
<td></td>
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<tr>
<td>- The link between corporate governance and political certainty and stability –</td>
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<tr>
<td>recognising the similarity between corporate governance and political</td>
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<tr>
<td>constitutions; and</td>
<td></td>
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<tr>
<td>- Prevention of dysfunctional concentrations of power.</td>
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<tr>
<td>Compare and distinguish the different governance issues between the public,</td>
<td>2</td>
</tr>
<tr>
<td>private and non-governmental organisations (NGO) sectors.</td>
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</tr>
<tr>
<td>Explain and evaluate the roles, interests and claims of the following stakeholders</td>
<td>3</td>
</tr>
<tr>
<td>involved in corporate governance:</td>
<td></td>
</tr>
<tr>
<td>- Directors;</td>
<td></td>
</tr>
<tr>
<td>- Management;</td>
<td></td>
</tr>
<tr>
<td>- Investors (shareholders and minority shareholders);</td>
<td></td>
</tr>
<tr>
<td>- Auditors;</td>
<td></td>
</tr>
<tr>
<td>- Regulators and Government.</td>
<td></td>
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<tr>
<td><strong>Emerging Trends and Current Issues</strong></td>
<td></td>
</tr>
<tr>
<td>Summarise the key issues in relation to both domestic and international emerging</td>
<td></td>
</tr>
<tr>
<td>trends and current issues.</td>
<td>1</td>
</tr>
</tbody>
</table>
1 The nature of corporate governance

1.1 Definition of corporate governance

There are many definitions of corporate governance.

The UK Cadbury Report (1992) defined it briefly as follows: ‘Corporate governance is the system by which organisations are directed and controlled.’

The Organisation for Economic Co-operation and Development (OECD) defines corporate governance as: ‘Procedures and processes according to which an organisation is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organisation such as the board, managers, shareholders, and other stakeholders, and lays down the rules and procedures for decision-making.’ (OECD glossary, available at http://stats.oecd.org/glossary/detail.asp?ID=6778)

In a paper Corporate Governance in Asia and the Asian Financial Crisis published in 1999, a Special Counsel to the Asian Development Bank gave a useful explanation of corporate governance, suggesting that it has both a narrow and a wider meaning:

- The narrow meaning is based on a legal perspective: corporate governance is about the internal relations within a company that determine decision-making powers and accountability.
In its wider sense, corporate governance was described in 1999 by Professor Scott of Stanford Law School:

'Corporate governance' includes every force that bears on the decision-making of the firm. That would encompass not only the control rights of (shareholders), but also the contractual covenants and insolvency powers of debt holders, the commitments entered into with employees and customers and suppliers, the regulations issued by governmental agencies, and the statutes enacted by parliamentary bodies. In addition, the firm's decisions are powerfully affected by competitive conditions in the various markets in which it operates. One could go still further, to bring in the social and cultural norms of the society.'

Individuals and groups with an interest in governance decisions by a company, and those who influence decision-making, are known as stakeholders in the company.

Corporate governance is not about the management of a company, which is entrusted to the CEO and the management team. An important aspect of governance is the relationship between the Board of Directors and management of the company. Corporate governance refers to the frameworks, principles and processes established by the Board of Directors by which the management has to follow in pursuing the strategic objectives of the company.

The Board of Directors provides the guidelines as to how the company can be directed and controlled such that it can fulfil its goals and objectives in a manner that adds to the value of the company and is also beneficial for all stakeholders in the long term.

The Board of Directors is responsible for the governance of risk and it has to ensure that management maintains a sound framework of risk management and internal controls to safeguard the interests of shareholders and other stakeholders, and protect the assets of the company.

1.2 Origins of corporate governance regulations and guidelines

Corporate governance emerged as a matter of concern for investors and regulators in the UK from the late 1980s, when a number of high-profile corporate collapses raised concerns about the behaviour of Boards of Directors and the lack of transparency in financial reporting. The first UK corporate governance code, the Cadbury Code, was issued in 1992. The UK code, now known simply as the UK Corporate Governance Code, is more extensive than the original Cadbury Code and deals with a larger number of governance issues. The UK Code applies specifically to listed companies and although it is a voluntary code, the Listing Rules of the UK Financial Conduct Authority require all listed companies to comply with the provisions of the Code or explain any non-compliance.

Following a number of corporate failures in the USA in 2001 and 2002, the US government introduced legislation to improve standards of corporate governance in major corporations. The Sarbanes-Oxley Act 2002 was a legislative rules-based approach to improving governance, unlike the principles-based voluntary approach of the UK.

All countries with a stock market have developed corporate governance regimes, although some are better developed than others. Most countries have adopted a voluntary principles-based approach and many countries and states (including Singapore) have a code of good corporate governance that listed companies are expected to observe.

The Singapore Code of Corporate Governance was first issued in March 2001. It became the responsibility of the Monetary Authority of Singapore (MAS) and the Singapore Exchange (SGX) in September 2007 and was last revised in May 2012. Compliance with the Code of Corporate Governance is not mandatory, but listed companies are required under the Singapore Exchange Listing Rules to disclose their corporate governance practices and give explanations for deviations from the Code in their annual reports ('comply or explain').

It is also important to understand that rules or guidelines on corporate governance are not restricted to codes of good practice. Many aspects of corporate governance, such as the duties of directors, rights of shareholders, financial reporting requirements and audit requirements are covered by legislation and compliance with the law is compulsory.
1.3 Western and Asian perspectives on corporate governance

When guidelines on corporate governance were developed in the UK and USA, the main area of concern was the role of the Board of Directors and the relationship between the Board of Directors and the company’s shareholders.

In the USA and UK, there is usually wide share ownership in listed companies, and there are no major and dominant shareholders. Listed companies are managed by professional managers in the interests of the shareholders (and possibly also other stakeholders) and they should be accountable for how they do this. The directors govern the company as agents for the shareholders, and the relationship between the shareholders and the Board can be described as a principal-agent relationship. The agents should not be able to govern the company in their own personal interests when these differ from the interests of the shareholders generally: agents should act in the best interests of their principal.

Different circumstances apply in countries of Asia, where many large companies are either state-owned or family-owned. This concentration of ownership may create conflicts of interest, where decisions are taken in the interests of the majority owner, without due regard to the interests of the minority owners. For example, individuals or families may control a large group of companies, with relatives and friends sitting as directors on group company Boards.

Whenever there is a majority shareholder who is in a position to dominate decision-making by the Board, a requirement for good corporate governance is to balance the relationship between majority and minority shareholders.

1.3.1 Related party transactions

Related party transactions may sometimes affect governance standards in a company. Related party transactions occur when related companies or individuals enter into contracts with the company for:

- Regular trading arrangements to buy and sell goods or services
- Asset transfers
- Providing financial assistance (for example, making a loan to a controlling shareholder)

Many related party transactions benefit the company and are economically sensible; however, a number of them may be damaging to minority shareholders. There may occasionally be 'abusive' related party transactions that enrich the controlling shareholder or shareholders (or perhaps an executive director). The transfer of resources of a company to the control of the majority owner by means of a related party transaction is known as ‘tunnelling’.

1.3.2 Board nomination and election

A majority shareholder can exercise strong influence over decision-making in a company, but management is given authority to run the business operations. Management is accountable to the shareholders through the Board of Directors. The Board of Directors should give strategic direction to the company and should monitor the performance of management. The Board should also balance the different interests and classes of shareholders, and other stakeholders.

To fulfil its responsibilities properly, the members of the Board should be able to use independent judgement. Where directors are an appointee of a controlling shareholder, they may not be sufficiently strong or independent-minded to influence decision making by the Board. They tend to comply with the wishes or expectations of the majority shareholder.

1.4 The benefits of good corporate governance

For large listed companies, good corporate governance has several benefits.

- It should help to improve decision-making and control at Board level.
- Good governance also provides for robust management of risk. (Risk management and internal control are considered in more detail in later chapters.)
• Good corporate governance requires transparency and disclosure of reliable information about the company’s performance, position and future prospects. Investors who are given information they can trust are more likely to buy and retain shares in the company.

• It also attracts external investment if minority shareholders believe that their interests and rights are properly protected.

A commitment to good governance involves measures for achieving:

• Well-defined shareholder rights
• High levels of transparency and disclosure
• Robust debate within the Board of Directors
• Engagement by the Board with shareholders, including minority shareholders, and dialogue between the Board and shareholders

Investors, particularly established and reputable private equities funds, sovereign wealth funds, and astute individuals, demand high standards of corporate governance from their investments. They are more willing to pay a premium for well-governed companies than those companies with weak governance.

As individual wealth increases in many Asian countries, there will be growing demand for investment. Business owners may reinvest much of their wealth in their own company, but over time it seems likely that demand for share ownership will increase. In addition, investors in other countries will look for attractive investment opportunities in Asia. The best-governed companies will probably attract most of this private investment – and in doing so improve their prospects of future growth and success.

1.4.1 Good corporate governance, perceptions of risk and business valuation

Within a framework of good corporate governance:

• Investors can have trust in the Board of Directors to monitor the risks facing the business and keep these under control and within acceptable limits. A company must accept risks in order to make a profit, but the expected returns should justify the risks, and exposures to risk should not be so great that they threaten the financial stability of the company.

• With a good governance framework, there are robust and effective systems for managing risks.

• A requirement of good governance is the avoidance of unethical behaviour by a controlling majority shareholder. In a well-governed company, the minority shareholders will be less exposed to losses incurred because the controlling shareholder has acted in its own interests and at the expense of the minority shareholders.

• The company informs shareholders about its objectives and intentions, so that the shareholders have a clear idea of what the company is trying to achieve. They may also develop trust in the Board of Directors to achieve these stated objectives.

The return on investment required by shareholders is in proportion to the perceived risks of investment. If shareholders consider the investment risk to be low, they will invest for a lower expected return. For exposure to higher risk, investors will require a bigger return.

Share prices and business valuations are affected by expectations of returns for investors. It therefore follows that good corporate governance, by reducing perceptions of risk for investors, will result in a higher share price and company valuation.

1.4.2 Good corporate governance and avoidance of power abuse

A large part of corporate governance revolves around the Board of Directors.

• Although executive management is responsible for running the business of the company, the Board of Directors provides guidance. It decides company policy on matters such as corporate objectives, risk and senior executive remuneration.
Some major decisions are reserved for decision-making by the Board. These include decisions about major investments, major takeovers and recommendations for dividend payments. The Board of Directors is therefore a powerful body, and in a well-governed company, there should be a balance of power on the Board. A balance of power on the Board prevents a concentration of power in the hands of a small number of individuals.

- If there is a majority shareholder, this person should not dominate decision-making at Board level through membership of the Board and other Board nominees.
- Non-Executive Directors, particularly independent directors, should act as a counter-balance to the authority of the executive directors.
- Ideally the Chairman of the Board and the Chief Executive Officer should not be the same individual, so that one person cannot exercise the powers of the two most influential Board positions.

It is sometimes argued that a problem with ‘good’ corporate governance is that it can slow down decision making at the top of a company. Some important decisions may be delayed until a Board meeting is convened and the directors make their decision. The Board may also need to meet several times to discuss a matter, until there is general agreement between all the Board members.

Critics argue that a successful company needs entrepreneurial leadership, and leaders who are prepared to make quick decisions in order to act in a timely way by taking initiatives ahead of the competition, or responding to new threats in the business environment. It may also be argued that collective decision-making bodies (such as a Board of Directors or a committee) are more conservative and cautious in their outlook, because they seek to achieve agreement and consensus of all the members.

Good corporate governance should strike a balance between:

- Timely decision-making at Board level, and
- Avoiding abuse of power by delegating too much decision-making to an entrepreneurial leader such as the CEO.

The Singapore Code of Corporate Governance states that, among other duties, the role of the Board is to provide entrepreneurial leadership, set strategic objectives, and to establish a framework of prudent and effective controls which enables risk to be assessed and managed. The UK Corporate Governance Code expresses a similar idea in a provision which states: ‘The Board’s role is to provide entrepreneurial leadership of the company within a framework of prudent and effective controls…’

1.4.3 Principles-based and rules-based governance

Frameworks of corporate governance may be principles-based or rules-based.

In most countries that have adopted a formal corporate governance framework, including Singapore, there is a corporate governance code. Countries with a voluntary corporate governance code are said to have a principles-based governance framework. A code consists of various general principles of good corporate governance, and for each principle there are guidelines indicating how these principles should normally be applied in practice.

Some countries rely more on laws and regulations to establish a corporate governance framework. The most well-known is the set of governance regulations introduced by the Sarbanes-Oxley Act in the USA (from 2002). The USA is said to have a rules-based governance framework.

In practice, in most countries with a principles-based framework, corporate governance is based partly on laws and regulations – such as companies legislation and employment legislation – as well as a code of principles.

1.4.4 Principles-based frameworks: comply or explain

Corporate governance codes are voluntary. However the listing rules of the stock exchange may require listed companies to:
Comply with the guidance in the code, or
Explain any non-compliance with the guidelines in its annual report.

The Singapore *Code of Corporate Governance* consists of principles of good governance and supporting guidance or guidelines for the application of these principles in practice.

Listed companies in Singapore are required by the Rule Book of the Main Board to apply the principles of the Code to their governance. They are also required to comply with the guidance in the Code, or to explain any non-compliance in their annual report.

This rule is known as 'comply or explain'. Although listed companies are required to apply all the principles of governance in Singapore's Code of Corporate Governance, they may occasionally have good reasons for non-compliance with one or more of the detailed guidelines.

Listing Rule 710 of the Mainboard rules states that a company 'must describe its corporate governance practices with specific reference to the principles of the Code in its annual report. It must disclose any deviation from any guidance of the Code together with an appropriate explanation for such deviation in the annual report.'

When a listed company does not comply with a guideline or detailed provision in the Code, it must therefore explain its non-compliance in its annual report, and the reason that it gives should be consistent with upholding the broad governance principle to which the guideline relates.

Since codes of corporate governance are voluntary, their application in practice applies only to listed companies – because of the stock exchange listing rules. Although compliance with the Code guidance is not compulsory, there is significant pressure on listed companies (from stock market institutions, regulators and investors) to comply. Investors may disapprove of any non-compliance, unless the explanation that the company provides is satisfactory and convincing.

However non-listed companies, especially those expecting to acquire listed status in the near future, may seek voluntarily to apply most or all the guidelines or provisions in the Code, in order to achieve a high standard of governance.

Aspects of good corporate governance are described in some detail in Chapters 9 and 10, and the Code itself is set out in Chapter 11.

**Question 8.1**

**Rules v principles**

Describe the essential features of a rules-based approach to corporate governance, and give reasons why a principles-based approach might be preferable in developing countries.

**Emerging trends and current issues**

In January 2018, the Corporate Governance Council (‘the Council’) published a consultation paper on its proposals to revise the Code of Corporate Governance.

One of the Council’s key recommendations is that the Code should include a simple Introduction, clarifying how companies should apply the ‘comply or explain’ regime.

The Council has proposed that the Code should continue to apply on a comply or basis, but with the existing ‘Principles’ and ‘Guidelines’ re-defined as follows:

- **Principles** – are overarching and non-disputable statements which embody the fundamentals of good corporate governance that companies should comply with.
- **Guidelines** will be renamed as **Provisions**, and these will be actionable steps which guide companies to help them comply with the substance of the principles.
The Council has also suggested that companies’ disclosures under the existing comply or explain regime are often inadequate to enable stakeholders to understand the company’s approach to corporate governance. Although the Council believes that the overall logic of a comply or explain regime remains fundamentally sound, it has recommended that expectations be clarified to provide more meaningful communication between companies and their stakeholders.

In particular, the Council has proposed that:

- Compliance with the Code’s Principles should be mandatory
- Companies are required to describe their corporate governance practices with reference to both the Principles and the Provisions underpinning each Principle.
- Variations from the Provisions are acceptable and companies can take other steps as appropriate to their circumstances, to the extent that they explicitly state and explain how their practices are consistent with the intent of the relevant Principle.

### SECTION SUMMARY

Where listed companies are not controlled by a majority shareholder, but have a large number of relatively small shareholders, an important focus for corporate governance is on the relationship between the Board of Directors and the equity shareholders. One concern, for example, may be domination of the Board by a powerful Board Chairman or Chief Executive Officer.

Where listed companies are majority-owned by family members (or in some countries, by the state), there should be focus on the protection of minority shareholders’ interests against unfair decisions and actions by the controlling majority.

Benefits of good corporate governance include better decision-making at Board level and improved attractiveness to external (minority) shareholders. If investors believe that a company’s good corporate governance frameworks reduce investment risk, the cost of capital should be low and the share price consequently higher.

A balance of power among members of the Board of Directors should prevent concentration of power in the hands of one person (such as the majority owner) or small group of people. However, some powers must be delegated to prevent slow decision-making: a balance must be found between the need to have timely decisions and the need to avoid abuse of power by a dominant individual.

### 2 Principles of good corporate governance

**SECTION INTRODUCTION**

The development of corporate governance has been influenced extensively by the Organisation for Economic Co-operation and Development (OECD), which has published a set of corporate governance principles. These are based on fundamental principles of integrity, transparency, accountability, responsibility and independence.

Good corporate governance is based on a number of basic principles or core values: integrity, transparency, accountability, responsibility and independence.
2.1 Integrity and honesty

Integrity means straightforward dealing and completeness. In the context of financial reporting, the UK Cadbury Report commented that: ‘What is required of financial reporting is that it should be honest and that it should present a balanced picture of the state of the company's affairs. The integrity of reports depends on the integrity of those who prepare and present them.’

Integrity is associated with straightforwardness, fair dealing and honesty in relationships, and it helps to create trust.

Integrity is also one of the fundamental ethical principles for professional accountants.

WEBSITE

The ISCA Code of Professional Conduct and Ethics can be found at: www.isca.org.sg/ethics/codes-of-professional-conduct-ethics

The principles of integrity and honesty are evident in the requirement in FRS1 for fair representation. Paragraph 15 of FRS1 states that: ‘Financial statements shall present fairly the financial position, financial performance and cash flows of an entity. Fair presentation requires the faithful representation of the effects of transactions, other events and conditions in accordance with the definitions and recognition criteria for assets, liabilities, income and expenses set out in the Framework. The application of FRSs, with additional disclosure when necessary, is presumed to result in financial statements that achieve a fair presentation.’

2.2 Transparency

Transparency in corporate governance means:

- Open and clear disclosure of relevant information to shareholders and other stakeholders in a timely manner, and
- Not concealing information when it may affect decisions.

A company that operates with transparency provides full and honest information to shareholders and other stakeholders, and makes its intentions clear. Examples of transparency might be to inform shareholders and other investors about:

- The company's environmental policies, such as policies for sustainable development, use of scarce natural resources and controlling emissions and pollution of land, water and air
- The company's policies on remuneration of directors and senior executives
- The main business risks facing the company

Companies that do not practice transparency limit the amount of information they provide to stakeholders, who are therefore uncertain about the company's intentions, policies and situation.

2.2.1 Transparency and confidentiality

Linked with the agency issue, relevant and reliable information from a company reassures investors and underpins stock market confidence in how companies are governed. This may influence demand for the company's shares, and so affect its share price.

There are occasions when confidentiality or secrecy is appropriate. For example, a company may not wish to publish information about its business strategy if this would be of commercial benefit to its competitors. Transparency is therefore better described as 'not keeping everything hidden' rather than 'wanting to disclose everything'.
2.3 Accountability

Accountability means having to answer for actions and decisions. In a company:

- The Board of Directors is accountable to the shareholders for their stewardship of the company, through published reports and financial statements and general meetings of the company. The directors may also be directly accountable to a majority shareholder in meetings and through informal contact.
- The Board of Directors may consider itself accountable to the community for its policies on social and environmental issues.

The annual report and accounts is an important document because the Board presents information to shareholders about the company's performance, financial position and future prospects. It is important that the information in the report and accounts is reliable and not misleading: the application and enforcement of Singapore Financial Reporting Standards in company accounts is therefore an element of good governance.

2.4 Responsibility

Responsibility is a duty implying ownership and accountability. In corporate governance, the Board of Directors has certain responsibilities and it should be accountable for the way in which it has discharged them. Accountability and responsibility should go together.

The Board of Directors has responsibility for the stewardship of the company and its assets, and should be accountable to shareholders. Within a framework of corporate governance, there may be some uncertainty about responsibilities and accountability. For example:

- In a company with a controlling shareholder, is the Board accountable to the controlling shareholder or to all the shareholders?
- Does the Board of Directors have any responsibility to other stakeholders, such as employees or customers?

2.5 Independence

Independence is not a universal principle of good corporate governance, but it is an important requirement in some areas of governance.

Independence is the avoidance of undue influence by another person or other people. Independent-minded people reach judgements on the basis of their own assessment of the situation, and do not express the opinions of others.

- It is accepted good corporate governance practice that the Board of Directors should include some Independent Non-Executive Directors, who will express views that they consider to be in the best interest of the company as a whole. (This is explained more fully in the next chapter.)
- It is also essential for the purpose of the annual external audit that the audit firm should be independent of the influence of the management or owners of a client company and that they will give an honest professional opinion about the company's financial statements.

WEBSITE

The ISCA Code of Professional Conduct and Ethics states that independence comprises independence of mind and independence in appearance. For a definition of independence, see:

3 Stakeholders in a company

3.1 Definition of stakeholder

A stakeholder is a person, group of people, business entity, or any other organisation that:

- Can influence corporate decision-making, or
- Is affected by corporate decisions.

Each stakeholder or stakeholder group has different claims on the company and different expectations of what the company should do to satisfy their interests and claims.

- Some stakeholders want to influence what the organisation does. They may have strong influence, or their influence may be weak.
- Other stakeholders may not want to influence company decisions, and are mainly concerned with how the company's actions affect them. For example, lenders or bondholders in a company may not want to influence the company's business strategies, and are mainly concerned with the company's ability to pay the debt interest and repay the lending at maturity.

There is a distinction between direct and indirect stakeholder claims.

(a) Stakeholders who make direct claims express their opinions, wishes and expectations directly to the company's decision-makers.

(b) Stakeholders who have indirect claims are generally unable to make their claims directly to a company because they do not have a channel of communication. For example members of the general public may be concerned about the social and environmental policies of a company, but are unable to express their views directly to the company's Board of Directors.

A distinction can also be made between:

(a) Internal stakeholders, who are stakeholders within the company structure, such as the Board of Directors, management and other employees.

(b) Connected stakeholders: these are stakeholders with a direct connection with the company but are not part of its operational structure: these include shareholders, external auditors, lenders and bondholders, customers, suppliers and competitors.

(c) External stakeholders, who are stakeholders outside the company structure who do not have a direct connection with the company. These include government bodies and regulators, pressure groups and the general public.
### 3.2 Stakeholders and stakeholder groups

The following table lists some of the stakeholders in a company, and comments on their interests and power or influence.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Power</th>
<th>Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directors</td>
<td>The Board of Directors as a whole has powers and responsibilities that are established in company law and by the company's constitution.</td>
<td>The Board should act in the best interests of the company (its equity shareholders and possibly also other stakeholders).</td>
</tr>
<tr>
<td>Executive directors</td>
<td>Combine role of executive manager, with executive authority and responsibilities with role as a board member.</td>
<td>The company is often the individual's only employer and main source of income. Strong self-interests: remuneration, status.</td>
</tr>
<tr>
<td>Non-Executive Directors</td>
<td>Responsibilities as members of the Board.</td>
<td>Some may represent particular interests, such as the interests of the controlling shareholder or the interests of family shareholders. Some Non-Executive Directors are considered independent.</td>
</tr>
<tr>
<td>Investors (shareholders, including minority shareholders)</td>
<td>Investors provide capital to the business and therefore own it. They allow the board of directors to control day-to-day operational matters, but some decisions are reserved to make by company resolution (usually in a general meeting). Examples of such decisions include; approving the accounts, appointing new directors and auditors and changing the company's name. They have the power to remove directors if they are not happy with their performance.</td>
<td>Investors will act in their own interest, usually to protect their investment and maximise their returns. Not all investors have the same objectives though. For example one group may wish to maximise dividend payments in the short-term and another may be looking for a long-term increase in share price. This may create disagreement between investors. Usually minority shareholders will have to accept the wishes of the majority.</td>
</tr>
<tr>
<td>Employees and managers</td>
<td>Employees may have powers through collective industrial action. Some specialists may have power or influence through the value of their skills and experience.</td>
<td>Self-interest such as remuneration, and desire for promotion, job security or better working conditions.</td>
</tr>
<tr>
<td>Lenders; financiers</td>
<td>Lenders (for example, banks) are key sources of finance for companies, particularly in companies and industries with high levels of debt finance (eg loans). Lenders need to be satisfied that loans (or other finance) they provide to a company will be repaid, in accordance with the terms of the loan.</td>
<td>If potential lenders are concerned about the risk of lending to a company, they will charge higher rates of interest, or – in some cases – they may choose not to provide finance at all.</td>
</tr>
<tr>
<td>Stakeholder</td>
<td>Power</td>
<td>Interests</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Suppliers</td>
<td>Major suppliers may be key stakeholders, particularly in businesses where material costs and quality are significant, or where materials are in scarce or restricted supply. A company may also rely on prompt delivery by suppliers. For these reasons, suppliers may exercise influence over operational decisions of a company. A major supplier may be appointed to the Board of Directors of a customer company.</td>
<td>Suppliers have their own corporate self-interests. Some suppliers may be a related party to the company or a company director or shareholders; if so there may be issues arising from related party transactions.</td>
</tr>
<tr>
<td>Customers</td>
<td>Customers may exert strong influence over a company when the company has just one or two major customers who buy most of their output. In some product markets, customers may exercise influence by having the ability to switch to buying products from competitors.</td>
<td>Customers want satisfaction from the goods or services they buy. Customers may have high expectations of the goods and services they buy. These include not just low costs, but value for money, quality and service support. Some customers may be a related party to the company or a company director or shareholders; if so there may be issues arising from related party transactions.</td>
</tr>
<tr>
<td>External auditors</td>
<td>The external audit is an important element in corporate governance. Unless the company's financial statements give a true and fair view, the external auditors can give a qualified audit opinion, which would be damaging to the company's reputation and share price.</td>
<td>The external auditors should be independent and free from the influence of the company's owners or managers.</td>
</tr>
</tbody>
</table>
| Regulators        | Regulation can be defined as any form of interference with the operation of the free market. The government and regulators can establish laws, rules, regulations and guidelines for companies to follow. The powers of regulators depend on:  
- The nature of the legislation or regulation, and  
- The powers of the regulator, and the ability of the regulator to enforce the regulations. | The interest of regulators should be to ensure that companies comply with the regulations. The regulator ensures fair market practices within the national economy.                                                                                                                                 |
3.3 Conflicts of interest

Stakeholders have different interests and different claims on a company, and there are inevitably conflicts of interest.

(a) In a listed company that does not have a dominant shareholder, considerable power may be exercised by the Board of Directors, and there may be a conflict between the self-interest of individual directors (especially executive directors), the interests of the company as a whole and its shareholders.

(b) In a company with a dominant majority shareholder, there may be a conflict between the interests of the dominant shareholder and the interests of the minority shareholders. In a family-owned company, for example, the majority shareholder may also be the founder of the company, its Chairman and its CEO: in this situation, the majority shareholder will be a dominant individual in the governance of the company, and minority shareholders may have little influence.

(c) There may be conflicts of interest between the shareholders of a company, who want higher profits and dividends, and employees who would like more remuneration.

When there are conflicts of interest, the interests of one stakeholder may gain precedence over the interests of another. Alternatively, there may be a compromise in which the company seeks to satisfy, in part at least, the differing interests of the stakeholder groups.

Another potential conflict of interest is the conflict between the responsibility of the external auditors to provide an independent professional opinion about a company's financial statements, and the desire of the audit firm to maximise fee income from its corporate clients. In wanting to protect fee income, the auditors may be reluctant to question or challenge the financial statements.

The OECD has commented about its Principles of Corporate Governance (described later) that: 'Managing conflicts of interest is particularly important with respect to external auditors, whose independence is crucial for financial market integrity. The OECD Principles recognise the importance of...provisions introduced by many countries to deal with the skewed incentive structure that arises when the external auditor provides non-audit services or when he/(she) might be involved in auditing his own work. Managing the relationship with the external auditor so as to ensure a high-quality independent audit is also identified by the Principles as a key duty of the Board.'

WEBSITE
Conflicts of interest for accountants and safeguards are dealt with in Section 220 of the ISCA Code of Professional Conduct and Ethics. This can be found at: www.isca.org.sg/ethics/codes-of-professional-conduct-ethics

3.4 Stakeholder power and interest

One way of comparing the significance of stakeholders is to look at the power they exert and the level of interest they have in the company's decisions and activities. Power and influence are likely to affect the relationship between the company's owner or Board of Directors and the different stakeholder groups.

Mendelow's matrix (1991) provides a map for comparing the relative power and influence of stakeholders. In the matrix below, stakeholders in the bottom right hand side are more significant because they combine the highest power and influence. These would include a controlling stakeholder, or the Board of Directors.
(a) **Key stakeholders** are in segment A. The company's policies and strategy must be acceptable to them, at least. An example is a major customer.

(b) Stakeholders in segment B must be treated with care. They are capable of moving to segment A. They should therefore be **kept satisfied**. Institutional shareholders, such as foreign investment funds with shares in the company may be located segment B.

(c) Stakeholders in segment C do not have much influence over policy or strategy, but their views can be important in influencing more powerful stakeholders, perhaps through lobbying. These stakeholders should therefore be **kept informed**. Community representatives and charities might fall into segment C.

(d) Minimal effort is expended on stakeholders in segment D.

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**Question 8.2** **Mendelow's matrix**

Deepdown Mines is a mining company whose iron ore mines are all located in its home country. 90% of its shares are held by members of the family of the company founder. The founder has now retired and none of the family members is a director of the company. The family shareholders have not shown interest in the company's operations, and have been satisfied with the level of dividends they have received.

The company's executive directors are incentivised to achieve high profits by means of a remuneration package with potentially very large profit-related bonuses and they have persuaded the rest of the Board that significant measures should be taken to increase profits.

Labour costs have been identified as an opportunity for large cost savings. Over the last couple of years, many of the workers they have recruited have been economic migrants from another country, the Pacific People's Republic (PPR). The PPR workers are paid around 30% of the salary of workers from the home country, and they receive fewer benefits. However the pay is much higher than the workers would receive in the PPR.

The Board has been considering ways of imposing tougher employment terms on the home country workers. The number of dismissals and staff turnover of home country workers would be expected to increase and the departing employees would then be replaced by workers from the PPR.

The employment laws in the country have so far been weak, and companies have been allowed to amend terms and conditions of employment in a way that reduces employee rights and benefits. However a new government was elected into power a few months ago, and it has already introduced labour laws that give much greater protection to employees.

An international mining group has recently approached members of the founding family with an offer for their shares. The international chain is well-known for its aggressive approach to employee relations. Local employment laws still allow some renegotiation of employment terms if companies are taken over.
Required

Using Mendelow’s matrix, analyse the importance of the following stakeholders to any decision by the company about changing the employment terms of home country workers in Deepdown Mines.

(a) The Board of Directors
(b) The founding family shareholders
(c) The government
(d) Migrant workers

3.5 Shareholder and stakeholder views of corporate governance

There are different possible approaches to corporate governance that a major shareholder or a Board of Directors may adopt.

(a) The shareholder approach to governance is that a company exists to serve the interests of its shareholders. It is assumed that shareholders want to maximise their returns, which means that the aim of the Board of Directors should be to maximise profits, dividends and the share price.

When a company has a majority shareholder, a variation of the shareholder approach is that the company exists to serve the interests of the majority shareholder, even if this is at the expense of the interest of minority shareholders.

(b) The stakeholder approach to corporate governance is that a company exists to serve the interests of all its major stakeholders (however these are defined). This approach is based on the view that companies being so large, and their impact on society being so significant that they cannot just be responsible to their shareholders.

For example, it might be accepted that a company should be a good employer, looking after the interests of its employees, as well as acting in shareholder interests. However, there may be considerable dispute about which stakeholder interests should be taken into account in company decision-making.

(c) An enlightened shareholder view is somewhere between the shareholder approach and the stakeholder approach. This is the view that a company exists primarily to serve the interests of its shareholders, but it also has some responsibilities to other stakeholders. The interests of these stakeholders should therefore have some influence on decision-making by the company.

SECTION SUMMARY

This section has reviewed the main stakeholders in companies. The directors of a company need to be aware of the interests of the different stakeholder groups, and to recognise the relative importance of each group. The extent to which decision-making in a company is affected by a concern for stakeholder interests will depend on the approach of the Board of Directors to corporate governance.

It is a feature of good corporate governance that there is cooperation and dialogue between the Board of Directors and different stakeholder groups.
4 Corporate governance and political stability

SECTION INTRODUCTION

This brief section considers the importance of political and institutional stability for good corporate governance, and suggests that good corporate governance provides a stable platform on which the business economy of a country can develop.

In global financial and investment markets, where there is free flow of capital, investors will choose those regions and markets where there are well-established institutions, strong corporate governance and clear, transparent and consistent enforcement of laws and regulations. Investors recognise that there are bigger risks with investment in countries in developing countries, where there may be concerns not just about business risk, but also about:

- Weak corporate legislation
- Inadequate regulation of companies and business activities
- A lack of effective enforcement of regulations
- Poor law enforcement
- Unethical business practices
- Weak corporate governance

The institutions and regulations in a country may be insufficiently developed to support strong financial markets and sustained business growth. Investors will prefer to invest their money in countries where institutions are strong and the political environment is stable. If they invest in countries with weak institutions and a weak political system, they will expect very high returns to compensate for the risk.

Good corporate governance is not possible without strong laws, regulations and institutions (including the stock market and legal system). Regulations need to be effective and institutions must be well-developed.

4.1 Corporate governance and political constitutions

A framework of corporate governance, which establishes the rights, powers, responsibilities and accountability of different individuals and stakeholder groups, can be compared with a political constitution. With an autocratic constitution, the organisation is directed from the top by a powerful leader.

With a framework of good corporate governance, there is broader involvement by different stakeholder groups, and recognition of the differing interests of stakeholders.

(a) There should be clear lines of authority and responsibility for decision-making. The decision-making powers of shareholders, the Board of Directors and executive management should be clear. Decisions should not be taken by individuals who do not have the proper authority.

(b) There should be accountability, of management to the Board and of the Board to the shareholders.

(c) There should be legitimacy in appointments to the Board of Directors.

SECTION SUMMARY

Good corporate governance provides a basis for companies to develop, and corporate governance can be compared with a political constitution.

The next section begins to consider the key issues in corporate governance.
5 G20/OECD Principles of Corporate Governance

SECTION INTRODUCTION
This section describes briefly the G20/OECD Principles of Corporate Governance. These provide a benchmark that countries are encouraged to use when producing or reviewing their corporate governance standards.

The OECD Principles of Corporate Governance have been used by many countries as a guide for developing their frameworks of corporate governance. Originally published in 1999 and revised in 2004, they were most recently updated in 2015 and issued as the G20/OECD Principles of Corporate Governance.

The Principles provide guidance for policymakers, regulators and other market participants in improving the legal, institutional and regulatory framework that underpins corporate governance. The focus of the Principles is on public companies whose shares are traded on a stock market, and they also provide practical suggestions for stock exchanges, investors and companies. A note by the Secretary-General of the G20 countries, in the introduction to the Principles, states: ‘Good corporate governance is not an end in itself. It is a means to create market confidence and business integrity, which in turn is essential for companies that need access to equity capital for long term investment.’

The presence of an effective corporate governance framework, within an individual company and across an economy as a whole, helps to provide a degree of confidence that is necessary for the proper functioning of a market economy to create wealth, equal opportunities and prosperity for all.

5.1 The issues covered by the G20/OECD Principles
The Principles are grouped into six broad areas. (Quotations below are taken from the Principles.)

(1) Ensuring the basis for an effective corporate governance framework
The corporate governance framework should promote transparent and efficient financial markets. It should be consistent with the rule of law and should clearly set out the division of responsibilities among different supervisory, regulatory and enforcement authorities. In other words, there must be a market and regulatory infrastructure that supports good corporate governance.

The Principles state that public authorities should have effective powers of enforcement to deter dishonest behaviour and provide sound corporate governance practices. Where a country has a voluntary code of corporate governances, there should be clear specification of the requirements for implementation and compliance by companies, and the sanctions for non-compliance. The Principles also comment that stock market rules and regulations can play an important part in enhancing standard of corporate governance among listed companies.

(2) The rights and equitable treatment of shareholders and key ownership functions
The corporate governance framework should protect shareholders’ rights and make it reasonably easy for shareholders to exercise those rights. Shareholders should have the right to information and to participation (through shareholder meetings) in key company decisions. Impediments to cross-border voting (by foreign shareholders) should be eliminated. Conflicts of interest in related party transactions should be addressed. Related party transactions should be approved and conducted in a way that ensures proper management of conflicts of interest. Here should also be disclosure by companies of control structures, such as different voting rights for classes of shares.

The Principles advocate protection for minority shareholders against abuse by controlling shareholders. ‘Such abuse may be carried out in various ways, including the extraction of direct private benefits via high pay and bonuses for employed family members and associates, inappropriate related party transactions, systematic bias in business decisions and changes in the capital structure through special issuance of shares favouring the controlling shareholder.’
(3) **Institutional investors, stock markets and other intermediaries**

The Principles acknowledge that the ‘investment chain’ can be long and complex, with intermediaries between companies and the ultimate beneficiaries of the company's shares. Intermediaries include mutual funds, pension funds and insurance companies, all of which often make use of specialist asset/fund managers.

The Principles advocate transparency in the approach of intermediaries to corporate governance, and recommend that institutional investors should ‘disclose their policies with respect to corporate governance’. Policies on corporate governance will include. For example, the institution's policies on voting at company general meetings and engaging in direct dialogue with members of company Boards of Directors.

(4) **The role of stakeholders in corporate governance**

The Principles state that: ‘The competitiveness and ultimate success of a corporation is the result of teamwork that embodies contributions from a range of different resource providers including investors, employees, creditors, customers and suppliers, and other stakeholders… It is, therefore, in the long-term interest of corporations to foster wealth-creating co-operation among stakeholders. The governance framework should recognise the interests of stakeholders and their contribution to the long-term success of the corporation.’

Rights of stakeholders should be protected. The corporate governance framework should recognise the rights of stakeholders established by law or through mutual agreements. It should also encourage active co-operation between companies and stakeholders in creating wealth, jobs, and improving the sustainability of financially-sound enterprises.

(5) **Disclosure and transparency**

**Timely and accurate disclosure** must be made of all material matters regarding the company. Disclosures should include material information on: financial and operating results; company objectives; non-financial information; major share ownerships; remuneration of Board members and key executives, and information about Board members; related party transactions; foreseeable risk factors; issues concerning employees and other stakeholders; and governance structures and policies.

(6) **The responsibilities of the Board**

The corporate governance framework should ensure the strategic guidance of the company, the effective monitoring of management by the Board of Directors, and the Board's accountability to the company and the shareholders.

The board should fulfil certain key functions. These should include:

- Reviewing and guiding corporate strategy, major plans of action, risk management policies and procedures, annual budgets and business plans; the setting of performance objectives
- Monitoring implementation and corporate performance.
- Overseeing major capital expenditures, acquisitions and disposals.
- Monitoring the effectiveness of the company's governance practices and making changes as needed.
- Selecting, compensating, monitoring and, (when necessary) replacing key executives and overseeing succession planning.
- Aligning key executive and board remuneration with the longer term interests of the company and its shareholders.
- Ensuring a formal and transparent process for the nomination and election of B directors.
- Monitoring and managing potential conflicts of interest of management, board members and shareholders, including abuse in related party transactions.
Ensuring the integrity of the corporation's accounting and financial reporting systems, including the independent audit.

Ensuring that appropriate systems of control are in place, in particular, systems for risk management, financial and operational control, and compliance with the law and relevant standards.

Overseeing the processes of disclosure and communications.

(All these aspects of Board responsibilities are covered in the Singapore Code of Corporate Governance and will be described in more detail in later chapters.)

**WEBSITE**

The G20/OECD Principles can be found on the OECD website at: www.oecd.org/corporate/principles-corporate-governance.htm

**SECTION SUMMARY**

The G20/OECD Principles of Corporate Governance provide guidance on the requirements for a framework of good corporate governance. They apply to companies in all countries. They are not prescriptive and each country should develop a framework of governance that is suited to its circumstances and conditions.

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**6 The Asian Roundtable**

**SECTION INTRODUCTION**

Candidates should be aware of some features of the development of corporate governance in Asia. This section looks at the views of the Asian Roundtable.

The OECD has recognised that corporate governance requirements and problems differ between regions of the world, and it has established several regional roundtables on corporate governance. One of these is the Asian Roundtable on Corporate Governance, which issued a White Paper on Corporate Governance in Asia in 2003.

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**6.1 The Asian Roundtable on Corporate Governance**

The Asian Roundtable was established by the OECD. It meets regularly to consider corporate governance issues and priorities in Asia. It published an influential White Paper on Corporate Governance in Asia in 2003, which set out priorities for establishing good governance structures. These priorities were reviewed in another paper published in 2012: Reform Priorities in Asia: Taking Corporate Governance to a Higher Level.

This paper recognises the progress that had been made in raising standards of corporate governance throughout the region, and considers six priorities for improvements in corporate governance. These indicate most of the main concerns in corporate governance. (These priorities do not consider risk management and internal control: these important aspects of governance are considered in detail in later chapters.) The six priorities are explained below.
6.2 Priority 1: Education and awareness

Public-sector and private-sector institutions should continue to make the business case for the value of good corporate governance. This is largely a problem of education, and recommendations in the Asian Roundtable paper included the following:

- There should be policies and procedures at company level that promote awareness and observance of stakeholders' rights. Legal and regulatory frameworks should provide effective protection against retaliation for employees who report problems and abuses.
- The Board of Directors (and other policy makers) should not only take into account the interests of stakeholders; they should also communicate to the public how these interests are being taken into account.
- Entities should continue to develop 'performance-enhancing mechanisms' that encourage active co-operation between companies and their employees.
- Asian economies should seek to develop a corporate culture in which managers and Boards understand the advantages and need for effective disclosures to stakeholders. The view of the Asian Roundtable remains that the value of disclosure and transparency is not yet fully understood.

The 2012 paper commented that although good progress had been made since the original White Paper in 2003, many companies were still content to do only what is legally required and no more. There was a 'box ticking' approach to compliance. Corporate governance will be improved if companies do more than the minimum that is required by law and regulations.

6.3 Priority 2: Enforcement

Regulators in all countries should seek to achieve effective enforcement of corporate governance laws and regulations. A concern is that although laws and regulations for good governance may be in place, they are not always properly enforced. Without enforcement, regulations are ineffective.

Regulatory and enforcement institutions should therefore be adequately resourced and accountable, and they should develop credibility through the effectiveness of the work that they do. The regulators and enforcers should be supported by a credible and efficient judicial system.

Legal systems should provide regulations and judicial procedures that enable shareholders, especially non-controlling shareholders, to seek legal redress quickly and cost effectively against the company and its directors. The Asian Roundtable paper includes a recommendation that shareholders should be encouraged to initiate legal measures (class-action or derivative suits) against Board members and key executives for breach of their duties, failure to comply with disclosure requirements or securities fraud.

(Note: In a class-action lawsuit, a group of shareholders take legal action directly against the Board members or other individuals for damages suffered by the shareholders and damages are paid to the shareholders. In a derivative action, the shareholders take legal action against the directors in the name of the company.)

6.4 Priority 3: Disclosure of information

The quality of disclosure should be enhanced and disclosures should be made in a timely and transparent manner.

- Financial reporting should comply with Financial Reporting Standards and Auditing Standards
- Regulations should also promote good practice in disclosures of non-financial information by companies

Disclosures should include disclosures about control over the company. Legal and regulatory frameworks should reinforce measures to improve disclosure and transparency of beneficial ownership and control structures.
6.5 Priority 4: Board performance

Ensuring satisfactory performance of its duties by the Board of Directors is another priority for improvement in corporate governance.

- The corporate governance framework should set out clearly the duties and responsibilities of the Board of Directors. In fulfilling its role, the Board should apply high ethical standards, supported by a code of ethics. Punishments for violations of their duties by directors should be ‘sufficiently severe and likely’ to deter wrongdoing.
- Board performance should be improved by appropriate training of Board members and board performance evaluations. The Board should be of a suitable size and directors must be able to allocate the necessary amount of time to their work.
- Boards of Directors should be effective in their role. They should improve their participation in strategic planning, and monitoring of internal control and risk oversight systems.
- Boards should ensure that there are independent reviews of related party transactions involving managers, directors, controlling shareholders and other insiders.

The Asian Roundtable paper commented: ‘Even though Asia was little affected, the financial crisis of 2008 nevertheless raised doubts in the public’s mind with regard to Board members’ ability and willingness to discharge their duties to the company and to all of its shareholders. In Asia, persistent cases of expropriation, particularly of minority shareholders, through abusive related party transactions have called into question the independence and diligence of Boards in the region, where controlling shareholders appoint most, if not all, Board members.’

6.6 Priority 5: Protection of non-controlling shareholders

‘The legal and regulatory framework should ensure that non-controlling shareholders are adequately protected from expropriation by insiders and controlling shareholders.’

Gatekeepers such as external auditors should be able to inform and advise shareholders ‘free of conflicts of interest’.

The Asian Roundtable recommendations included the following proposals:

- Regulators should continue to enhance rules that prohibit Board members, key executives, controlling shareholders and other insiders from taking business opportunities for themselves that might otherwise be available to the company.
- The state should exercise its rights as a shareholder actively and in the best interests of the company. This is of particular relevance to Singapore, where there is extensive state ownership of majority stakes in companies.
- ‘Asian economies should adopt a comprehensive approach to monitoring and curbing related party transactions that could be abusive.’

Where a single family enjoys effective control of a business or where the state owns a significant stake in the company, other shareholders may need to ask themselves whether the company’s assets and cash flows are being:

- Diverted by management or by the controller for their own personal benefit, or
- Sacrificed in the interest of social or political objectives set by the state.

There may be inequitable treatment of shareholders through insider trading and abusive self-dealing. Although there may be laws against this, there may be problems with its enforcement.

The 2003 White Paper recognised that some controlling shareholders do give due consideration to minority shareholders and other stakeholders. It commented that: ‘The informal nature of Asian stakeholder/company interaction can produce real and lasting benefits for stakeholders that equal or exceed those offered through more formalistic approaches based on ‘rights’. At the same time, trends
towards more globalised markets and greater minority shareholder activism are leading to evolutionary changes in business relationships, as well as to debate about recasting informal interests as formal rights enjoying formal protection mechanisms.'

In other words, informal governance arrangements that have worked well in the past may need to be replaced by more formal governance structures that protect the rights of minority shareholders and other stakeholders.

6.7 Priority 6: Shareholder engagement
Shareholder engagement, in particular by institutional investors, should be encouraged and facilitated.

Engagement by shareholders often happens through voting at general meetings of the company. In a good corporate governance framework, the regulatory structure should allow shareholders to raise issues at general meetings and to exercise their voting rights, including voting by proxy.

6.8 Ongoing work of the Asian Roundtable
The Asian Roundtable meets regularly, currently annually, and its work is ongoing.

One of the areas discussed at the 2016 Roundtable was the disclosure of beneficial ownership of large publicly listed companies, to ensure the transparency which investors need to make reliable investment decisions. In 2017, the Roundtable's discussions focused on the evolving role of stock exchanges in standard-setting, supervision and enforcement of corporate governance in Asia.

WEBSITE
Information about the Asian Roundtable and its work can be found on the OECD website at: www.oecd.org/daf/ca/oecd-asianroundtableoncorporategovernance.htm

SECTION SUMMARY
The Asian Roundtable paper on reform priorities in Asia indicates the main areas of concern about corporate governance in the Asia region. Although a major problem is the potential conflict of interest between a majority controlling shareholder and minority shareholders, essential requirements for good corporate governance include better understanding of the purpose and benefits of good governance, and an effective Board of Directors.

7 Group governance

SECTION INTRODUCTION
Although listed companies are required to comply with a code of corporate governance (or explain any non-compliance), there has been relatively little research to date into the governance of entities within a group of companies. Groups differ in size and complexity, but significant governance problems may exist, particularly in large multinational groups.
Listed companies are generally parent companies of a group. The number of entities within a group (whether subsidiaries, associates, joint ventures or special purpose vehicles) may be very large, and in multinationals the group entities may be registered in many different countries around the world.

Group structures and management can differ widely.

- In some groups, subsidiary companies may act as a branch or division of the parent, closely integrated with the management and operations of the group.

- In other groups, however, some subsidiaries may be large, independent operating companies that contribute significantly to group profits. The parent company of the group may be a holding company, with very few assets and liabilities, and all the operating activities of the group may be conducted through subsidiaries (and sub-subsidiaries). In spite of the importance of these subsidiaries for the group, they may not be under the direct oversight of the parent company Board.

A study on Governance in Company Groups in Singapore, Malaysia and Australia by Mak Yun Teen and Chris Bennett (2014) argued that the parent company Board in a group has a responsibility to oversee governance in subsidiaries and other group entities, and that there should be more disclosures about measures that have been put in place to ensure good governance throughout the entire group.

In large multinationals, some small subsidiaries may contribute relatively small amounts to total group profits, but they may have the potential to cause huge losses for the group, and to damage the group’s reputation.

- Arguably, the collapse of Barings Bank in 1995 can be attributed partly to failure by the parent company to monitor its small Singapore subsidiary, where rogue trader Nick Leeson incurred losses in derivatives trading that brought down the entire bank.

- The huge costs and damage to reputation suffered by oil group BP in the Deepwater Horizon disaster in the Bay of Mexico in 2010 occurred in a group subsidiary with its own Board of Directors and management.

Mak and Bennett suggested that entities within a group of companies which are relatively insignificant in terms of investment and revenue contribution to the group may nevertheless pose a significant risk to the entire group, due to a lack of proper frameworks and oversight.

When subsidiaries are established as operating companies with their own Board of Directors, possibly in a foreign country, senior managers from within the group may be appointed as Non-Executive Directors. As the subsidiary is a properly-constituted company, its directors owe fiduciary duties to that company. They also have responsibilities to the larger group. Occasionally, these dual responsibilities may create conflicts of interest, for which there may seem no obvious solution.

(a) There may be differences in regulations between the country of the parent company and the country of the subsidiary. In such cases, the market practice is to apply the stricter of the two regulations.

(b) The commercial interests of the subsidiary may differ from those of the parent company, in areas such as transfer pricing, senior management remuneration in the subsidiary and the repatriation of dividends from the subsidiary to the parent.

Mak and Bennett recommended that parent companies should provide oversight of group governance and should disclose in more detail aspects of governance within the group, in five areas of governance:

(a) Disclosure of whether there is a comprehensive group governance framework or policy, a head of group governance, or a central database that tracks all group entities.

(b) Board governance: disclosure for example of the extent to which directors or senior managers of the parent company sit on the Boards of other group companies; the appointment of independent directors; and whether board committees of the parent company have group-wide responsibilities.
(c) Information about **learning and communication of governance issues** within the group. Learning may address issues such as conflicts of interest for individuals with responsibilities to both parent and subsidiary.

(d) Whether there are **group policies** or group coordination on matters such as whistle blowing policy, ethical behaviour, risk management, executive remuneration and treasury activities.

(e) Disclosures about the group-wide approach to **audit, risk management and financial controls**

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**WEBSITE**

The article by Mak Yuen Teen and Chris Bennett can be found on the website of CPA Australia, at:


It can also be found at:

- [www.iclifgovernance.org/file/files/governance-co-groups.pdf](http://www.iclifgovernance.org/file/files/governance-co-groups.pdf)

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**SECTION SUMMARY**

Group governance is the responsibility of the parent company Board, which should oversee governance throughout the group. Where appropriate, governance policies and arrangements should be consistent throughout the group.

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**8 Governance in the public sector and NGO sector**

**SECTION INTRODUCTION**

Corporate governance is about governance in companies, especially larger companies with diverse shareholders. Principles of good governance should also apply to public sector organisations (such as nationalised industries and other state-run businesses) and non-government organisations (NGOs).

Principles of good governance should apply to public sector organisations and non-profit-making non-government organisations (NGOs) as well as to companies.

**8.1 Public enterprises in Singapore**

Public enterprises are a form of business organisation owned and managed by the state government or any other public authority. In Singapore these are Statutory Boards, such as the Public Utilities Board, Housing and Development Board, Economic Development Board, Monetary Authority of Singapore, Media Development Authority and Singapore Accountancy Commission.

Statutory Boards are not-for-profit organisations, but some are self-financing. Others that are not self-financing receive financing from the government.

**Governance in public enterprises**

Although there should be a requirement for good governance, there are some significant differences between public enterprises and private sector enterprises.
(a) There are no formal governance codes for Statutory Boards. However, they are regulated by the Instruction Manual and Operating Policies and Procedures issued by the Ministry of Finance.

(b) The objectives of Statutory Boards and wholly-state-owned companies are determined by the government. These objectives are often non-financial objectives.

(c) The main financial objective of the organisation may not be to make a profit. It may be to remain self-financing, or to operate within the financing limits provided by the government.

(d) Appointments to the Board are determined by the government.

Each Statutory Board is managed by a Board of Directors whose members are appointed by the responsible government Minister. The Board's members are representatives from related ministries, professional bodies and private sector interest groups.

Government-owned companies operate in the same way as private sector companies except that the Board of Directors may comprise senior civil servants and individuals from the business sector.

(e) Although statutory boards enjoy more autonomy in operational matters than government departments, they are subject to supervisory control by the respective ministries.

(f) Statutory Boards are accountable to Parliament or their government ministry. However, Ministers do not exercise day-to-day control over public enterprises; instead they lay down broad policy guidelines.

Statutory Boards are required by law to present to Parliament an annual report, including financial statements. Financial statements presented to Parliament are scrutinised by the Public Accounts Committee (PAC).

Non-self-financing Statutory Boards prepare their own budgets and submit them to their respective supervising ministries for approval.

Self-financing Statutory Boards are not required to obtain approval, but they submit their budgets to the respective supervising ministries to inform them of the financial proposals in the coming year.

(g) Statutory Boards are subject to audit by the office of the Auditor General rather than an audit firm, and the Auditor General reports to the Public Accounts Committee.

8.2 Government ownership of companies

The Singapore government is involved in the ownership of companies through Temasek Holdings (Private) Limited. Temasek is wholly-owned by the Minister for Finance, and is an active investor in public and private companies, and in companies around the world, not just in Singapore. The size of its shareholdings varies, from small investments to majority ownership. Under the Singapore Minister for Finance (Incorporation) Act (Cap 183), the Minister of Finance is a body corporate. (Note: The Minister for Finance is a corporate body, and is not the Ministry of Finance.)

As an active investor, shareholdings by Temasek in other companies continually change. At 31 March 2017, examples of companies in which Temasek held shares were Singapore Airlines Ltd (about 56%), Singapore Telecommunications Ltd (about 52%), DBS Group Holdings Ltd (about 29%) and Singapore Power Limited (100%). Temasek also owns shares in some private companies, such as (at the time of writing) Singapore Technologies Telemedia, MediaCorp, and PSA International.

Although the government owns shares through its ownership of Temasek, it does not get involved in investment decisions by the company. Neither the President nor the government is involved in investment, divestment or other business decisions, and Temasek is able to invest with full commercial discretion.

In addition, Temasek allows companies in its portfolio to be managed by their respective Boards and management and Temasek does not direct their business decisions. In other words, Temasek acts as a normal investor.
This means that companies that are partially owned by the government through Temasek should be free from government influence, and should be governed as normal commercial companies. Listed companies in which Temasek holds shares, for example, should be expected to comply with the Code of Corporate Governance in the same way as other listed companies.

8.3 Charities and Institutions of a Public Character (IPCs)

Charities and IPCs (collectively referred to here as ‘charities’) have different objectives from private sector companies and public enterprises. Most significantly:

- They are not-for-profit organisations.
- They have specific charitable missions or objectives, and it is a responsibility of their Board to decide the objectives for the charity and direct it towards these objectives.
- Stakeholders in charities include individuals and bodies that are not found with companies or public enterprises:
  - The recipients of the charity's programmes and services
  - Volunteers, who work for the charity without payment
  - Donors who provide the charity with funds so that they can operate.
- A charity does not have an equity owner. It is led by a Board of Directors (sometimes called a Board of Trustees or Board of Governors), and these individuals may not receive any remuneration for their services.

A charity should have good governance, but the requirements of good governance differ from those for companies, even though general principles such as integrity, transparency and accountability apply to both types of organisation. Good governance should:

- Help the charity to achieve its objectives more successfully
- Create support for the charity and its objectives from the public and from donors
- Make the charity accountable to its donors for how it spends its money.

8.4 Code of governance for charities and IPCs

The Charity Council in Singapore has issued a Code of Governance for Charities and Institutions of a Public Character. Charities (including institutions of a public character (IPCs)) are required to submit a return for each financial year to the Charity Council, indicating whether or not they have complied with each relevant part of the Code. The Code is voluntary, but non-compliance with any aspect of the Code should be explained.

The Code identifies the Board of Directors as the body with responsibility for ensuring good corporate governance. It states that the Board of Directors is responsible for putting in place principles and practices for good governance. It also encourages Boards to be open and transparent – and accountable – to stakeholders.

The stated aims of the Code are to:

- Make charities more effective in how they are governed and managed
- Provide guidance to the Board members about how to fulfil their responsibilities
- Increase public confidence in charities

8.4.1 Different governance requirements for different-sized charities

The Code recognises that the requirements for good governance should differ according to the size of the charity or IPC, and it makes a distinction between charities and IPCs. Larger charities and IPCs are expected to achieve higher standards of governance. The Code identifies four levels of governance standards. Small charities (those with annual gross receipts of less than $50,000) are required to comply with a basic set of standards (called Basic I standards). Larger charities are required to comply with a
higher level of standards (Basic II) and the largest are required in addition to comply with 'Enhanced' standards and, in the case of large IPCs, 'Advanced' standards as well.

This approach to governance, with differing requirements according to the size and status of organisation, is not applied to corporate governance for companies in Singapore, but might usefully be considered.

### 8.4.2 The Code guidelines

The Code's guidelines are divided into nine sections. Some guidelines are comparable with those for private sector companies, but others are especially applicable to charities.

1. **Board governance**
   
   The Board is responsible for ensuring that the charity is run well and responsibly, so that the charity remains 'effective, credible and sustainable'. In larger charities, the general rule is that staff members working for the charity should not become Board members. Where staff members are permitted by the charity's constitution to become Board members, they should not make up more than one-third of the Board membership, and the Board Chairman must not be a staff member.

   The Code specifies committees of the Board that should be established. In all but the smallest charities there should be an Audit Committee and a Programmes and Services Committee. The Enhanced standards require that there should also be Fundraising, Nomination and Human Resource committees.

2. **Conflicts of interest**

   Board members and staff should declare any conflicts of interest that they have, and must not take part in any decision-making where such conflicts exist. No individual should be involved in setting his or her own remuneration.

3. **Strategic planning**

   The Board is responsible for strategic planning. The Enhanced standards require the charity to produce a formal strategic plan. The Board should ensure that the charity's activities are in line with the objectives in the strategic plan, and it should review the plan from time to time.

4. **Programme management**

   Programmes and activities should be planned, monitored and reviewed to ensure that they are directed towards achievement of the charity's objectives.

   The requirements for strategic planning and programme management indicate the importance in the governance of charities of setting objectives and ensuring the achievement of objectives. This is not so well-emphasised in corporate governance.

5. **Human resource management**

   There are standards for human resources policies and arrangements. Small charities should have policies in place for staff and volunteers, including policies on recruitment, remuneration and benefits. Larger charities should have other HR policies; for example for training and development and performance appraisal of staff, and discipline.

   Corporate governance guidelines cover training and development and performance appraisal for directors, but not for other employees. HR is seen as an executive management responsibility, and not a governance issue.

6. **Financial management and controls**

   The main objective of private sector companies is related to profitability or return for shareholders. Charities are not-for-profit organisations and so do not have profit objective. However, they do need to be financially sound, and the Code includes requirements relating to internal financial controls. The Board should review from time to time the charity's financial controls, processes, key programmes and events such as fundraising.
All except the smallest charities should also prepare an annual budget and the Board should monitor actual results against the budget.

Charities are also required to maintain sufficient reserves to ensure their long-term financial sustainability.

(7) **Fundraising practices**
Fundraising activities should be ‘transparent and ethical’. Charities should disclose to donors how their funds will be used.

(8) **Disclosure and transparency**
There should also be disclosures to members and donors about the charity's programmes, activities, financial affairs and Board and executive management.

(9) **Public image**
A charity should uphold a public image that is consistent with its objectives. The Enhanced standards require charities to develop policies on the release of information and should appoint an 'appropriate spokesperson'.

The largest IPCs are additionally required (by the Advanced standards) to have regular self-evaluation by the Board of its performance and effectiveness; a formal plan to develop the capacity and capability of the charity (in addition to a strategic plan); and the Board should ensure that the charity's assets are effectively and efficiently utilised.

The Code of governance for charities and IPCs goes quite a long way into the detail of how charities should be governed and managed. Corporate governance is much less concerned with management.

**Question 8.3**

Discuss the ways in which charities differ from public listed companies and explain how these differences might affect their respective governance structures.

**WEBSITE**

Candidates should make themselves familiar with the requirements of the Code of Governance for Charities and IPCs, as it is applicable to their pro bono work as part of their Singapore CA Qualification Candidature. The Code can be found on the web site of the Singapore Charities Commission at:

www.charities.gov.sg

**SECTION SUMMARY**

Governance in public enterprises and governance in charities have some similarities with corporate governance, but also some differences. The differences relate largely to objectives, ownership and decision-making responsibilities.

For your examination, you may be required to compare different governance issues between the public, private and non-government organisations (charities) sectors. You may wish to return to this section after you have worked through the following chapters that go into further detail about corporate governance.
Emerging trends and current issues

It may be argued that a principle of good corporate governance should be ‘one share, one vote’ at general meetings of the company. This view became an issue of debate, particularly in Hong Kong, following a decision by the Chinese IT company Alibaba to list its shares on the New York Stock Exchange in 2014, instead of in Hong Kong.

It was reported that Alibaba wanted to make an Initial Public Offering for its shares on the Hong Kong Stock Exchange, but its owners insisted on a dual-class share structure whereby the owners would own a special class of shares giving them more rights (for example voting rights) than other ‘ordinary’ shareholders. Hong Kong listing rules prohibit listed companies from having more than one class of equity shares. It was also reported that after discussions for more than a year with the Hong Kong regulatory authorities, Alibaba decided instead to list its shares on the New York Stock Exchange, which allows companies to have a dual-class equity structure. The IPO was the biggest, globally, in 2014. The Hong Kong authorities received some criticism for failing to win the listing for Alibaba’s shares. The question is: To what extent is a dual-class structure for equity shares, giving dominance in shareholder decisions to ‘founder members’ of the company, ‘bad’ corporate governance?

In Singapore the Companies (Amendment) Act 2014 introduced an amendment to the Companies Act (Section 64A), removing the restriction on one vote per equity share. Following this amendment, public companies are allowed to issue shares with different voting rights.

In September 2017, the Accounting and Corporate Regulatory Authority (ACRA) issued a Registrar’s Interpretation to provide clarity on Section 64A. The Registrar’s Interpretation stated that, public companies may only issue different classes of shares with different voting rights if:

- The public company’s constitution provides for the issue of the class or classes of shares and sets out in respect of each class of shares the rights attached to that class or shares; and
- The members of the public company approved the issuance by special resolution.

Dual-class shares on SGX

In January 2018, the Singapore Exchange (SGX) announced it is allowing companies with dual-class share structures to have their primary listing on SGX.

The logic behind this move is to help SGX attract high technology companies. As reported in The Business Times, SGX’s Chief Executive explained that some innovative, high-tech companies need a capital structure which supports the rapid scaling up of their business. Dual-class shares are one way for them to achieve this, although they are not the only way.

The dual-class structure is favoured by technology stocks such as Google and Facebook, but critics argue it breaches the ‘one share, one vote’ principle, and leaves minority shareholders vulnerable. The Monetary Authority of Singapore has said it will review the safeguards that SGX is proposing to mitigate these risks.

More generally, the discussion around dual-class shares on SGX has highlighted the challenge for the authorities to strike an appropriate balance between business-friendliness and robust regulation.

Chapter Roundup
Quick Quiz

1. List four core principles of corporate governance.
2. Why may the concept of the principal-agent relationship be significant in corporate governance?
3. Give examples of connected stakeholders of a company.
4. Why is enforcement considered a priority in Asia for improving corporate governance frameworks?
5. What are the two categories of public enterprise in Singapore?
6. To whom are charities accountable?
8: Scope of corporate governance | PART C GOVERNANCE AND RESPONSIBILITY

Answers to Quick Quiz

1. Integrity/honesty; transparency; accountability; responsibility.

2. In listed companies which do not have a controlling shareholder, the shareholding may be spread between many investors. In this type of company, shareholders have only limited influence over how the company is governed, and the Board of Directors has considerable power and authority. The Board is an agent for the shareholders, and should act in the shareholders’ best interests. In practice the directors may act in self-interest, and corporate governance arrangements are needed to reduce the risk that this will happen.

3. Shareholders, external auditors, lenders and bondholders, customers, suppliers, competitors.

4. Countries may introduce regulations designed to improve corporate governance, but unless the rules are enforced properly they are ineffective. A concern in Asia is that regulations and guidelines are not always sufficiently enforced.

5. Statutory boards and companies which are wholly or partly owned by the government.

6. Charities should be accountable to their members (if any) and donors. In addition, Singapore charities are required to submit an annual return to the Charity Council indicating their compliance or non-compliance with the guidelines in the governance code for charities and IPCs.

Answers to Questions

8.1

Rules-based approach

Lack of flexibility

Rules-based approaches allow no scope for variation; the focus is upon conformity, whether a company has complied with the rules.

Necessity for legislation

A rules-based approach to corporate governance can only be effective if it is backed by government legislation.

Visibility

It should be easy to assess whether or not a company has complied with the rules.

Aspects of governance emphasised

Rules-based approaches emphasise aspects of governance that can be verified easily, such as whether there is an audit committee. They place less emphasis on areas such as organisational culture that cannot be governed by clear rules.

Principles-based approach

A principles-based approach emphasises to businesses the need to comply with the overall spirit of governance codes. It is therefore more likely to encourage the continuous improvement that is particularly important in developing countries, especially in areas which are not easily covered by rules.

Lack of local resources

A rules-based approach will only be effective if companies can draw on sufficient local resources to fulfil those rules. This may not be the case in developing countries. For example requiring all companies to set up an audit committee including non-executive directors with financial knowledge will be ineffective if there is an insufficient pool of individuals within the country who are willing to serve on audit committees.
Varying circumstances

Companies in developing countries are likely to develop their governance structures at different speeds as their businesses develop. Requiring all companies to meet the standards that are necessary for the largest, most developed companies, will not be cost-effective. Governments may not be willing to introduce the necessary legislation because of the cost to the taxpayer and corporate sector.

International appeal

If companies in developing countries follow a recognised international principles-based code, for example the OECD code, this may inspire more confidence in investors than if they follow a local, rules-based, code. Investors will be judging against an internationally recognised benchmark. Also the emphasis in international codes on 'comply or explain' encourages transparency by companies.

8.2

Remember that we are considering one specific decision so we need to focus on that decision.

The Board of Directors

**Power: Low**, surprisingly perhaps. However the new employment legislation appears to limit significantly directors' freedom to reduce labour costs by changing contractual terms. The directors also have little say over the decision by shareholders whether or not to sell their shares.

**Level of interest: High**, as this is a major decision, integral to the directors' plans for the future of the company. It may also have a significant effect on their remuneration.

Shareholders

**Power: High**, because the shareholders are currently in a position to sell their shares if they feel that they have received a good offer. If they do, trade unions and employees may find that the international company is able to take a much tougher approach.

**Level of interest: Low**, as none of them participate actively in the company's operations and decision-making. Their main concern is whether to continue to take dividends or realise a capital gain from their investment.

The government

**Power: High**, because it has the power to legislate to prevent companies from changing employment terms for company employees.

**Level of interest: High**, because they wish to protect members of the public, including employees of companies.

Migrant workers

**Power: Low**, replacement workers can be recruited easily from the home country.

**Level of interest: Low**, The migrant workers seem quite happy with their current terms of employment.

8.3

Purpose

The main purpose of companies is to earn a return for shareholders. Success is measured by earnings per share, cash flows and share price movements.

Charities exist to fulfil the charitable purpose for which they are set up. To be able to operate as a charity, this purpose will be a socially beneficial purpose as defined by the law. Funds are donated to the charity to support this charitable purpose. The charity's governance should therefore not only be concerned with maximising the income received, but also with the expectations of donors about how their donations will be used.
**Regulations**

Companies will be subject to companies' legislation, including regulations about how the company should be administered and the contents of the company's financial reports. Larger companies listed on a local stock exchange will be subject to listing rules and required to comply with the local governance codes, which include additional requirements such as the need for board committees. Charities will be subject to a different statutory regime. Charitable status confers certain privileges, for example exemption from taxation, that companies do not have. The accounting information required from charities is also likely to differ from that required for companies.

**Stakeholders' expectations**

Society expects a business to be run profitably and efficiently and to supply goods or services that society requires. As well as increasing shareholder wealth, a business is expected to treat other key stakeholders such as employees, suppliers and customers, fairly. A business will be successful if people want to work for it, suppliers supply resources and customers buy what it offers.

A charity's main stakeholders include donors, beneficiaries and employees. All of these will be concerned about the extent to which, and the ways in which, the charity fulfils its benevolent purposes.

**Governance arrangements**

Companies are governed by a board of directors. Listed companies are expected to include non-executive directors as well as executive directors on their board. The shareholders can hold the board accountable through votes at general meetings, including votes on whether to re-elect directors and whether to approve directors' remuneration arrangements.

Charities may have a board of executive directors to run their operations. However the fulfilment of the charity's purposes is overseen by a board of trustees, who have to look after the interests of beneficiaries who cannot represent themselves. The trustees themselves hold the executive board accountable for running the charity in accordance with the charity's purposes. This includes being sensitive to whether the executive board is acting in its own interests and not the charity's, by, for example, earning excessive salaries.
An effective and efficient Board of Directors is a key requirement for good corporate governance. The Board sets the ‘tone at the top’ and provides leadership to the company. It provides direction to the company by deciding its objectives, key strategies and risk appetite. The management team operate within the guidance provided by the Board, and the Board monitors management performance.

This chapter considers the role of the Board and the functions of its members: the Chairman, executive directors and non-executive directors. This chapter also considers the role of the management team, in particular the chief executive officer. It also considers the measures that are taken to improve and maintain the effectiveness of the Board, through matters such as personal development and performance review.

Without an effective Board, a company cannot be well governed. Without good governance, a company risks lack of direction, domination of decision-making by one individual or a small group of individuals, unreliable financial reporting, and weak systems of risk management and internal control.

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## ESSENTIAL READING


### 1 Agency law

#### SECTION INTRODUCTION

This section considers the basis of the role and duties of directors, including their authority under agency law. It is strongly recommended that you should learn and understand the basic concepts of agency law. In your examination, you may be required to apply them to a specific case study question.
1.1 Background to the law of agency

As we saw in Chapter 1, companies have their own legal personality and are able to enter into agreements and contracts in their own right. However, since companies are not living people, humans must act on their behalf. Although authority within companies is delegated down through the management hierarchy, in company law it is the directors who have legal authority to act on behalf of the company. They do so as agents of their company.

In agency law, an agent is appointed by a principal to act on behalf of the principal. The agent has authority to enter into contracts with third parties on behalf of the principal, and any such contracts are between the third party and the principal. The agent has a legal obligation to the principal, but does not have any legal relationship with the third party. Any subsequent contractual disputes are between the third party and the principal, not the agent.

Company directors, in law, are agents of their company. This agency relationship is supported by the company's constitution, which should set out the powers and authority of the directors.

1.2 The legal authority of agents

As agents of their company, directors have authority to enter into contracts with third parties in the name of the company. The authority of directors may be either express or implied.

- **Express authority** is authority that is specifically given to the agent by the principal. By appointing individuals as directors, a company effectively gives them authority to act on the company's behalf, either collectively as a Board of Directors or possibly also as an individual executive director. Express authority may be given to specific directors in the company's constitution.

- **Implied authority** is authority that arises when it is reasonable for a third party to suppose that the director has the authority to act on behalf of the company, even though the express authority does not actually exist. For example, it may be reasonable, when a company director places an order with a supplier to buy a quantity of goods on credit, for the supplier to assume that the director has the authority to make the order. If the director does not have express authority to do this, implied authority probably exists, and the supplier has a binding contract with the company.

- Directors are also likely to have **apparent authority** to act on behalf of their company, when neither express nor implied authority exists. If a third party can reasonably assume from the actions and words of a director that he or she is acting in the name of the company, any contractual agreement made by the director will be binding between the company and the third party.

1.3 Liability of agents and principals

Contracts made by an agent on behalf of a principal create a legal (contractual) obligation or liability for the principal.

Because the contract made by the agent is between the principal and third party, the agent does not have any liability to the third party. The only parties with rights and liabilities in respect of the contract are the principal and third party.

1.3.1 Directors' liability to the company and criminal liability

Although they do not have contractual liabilities to a third party, directors have obligations to their company. If they act outside their authority or in breach of their duties, the company (usually, the rest of the Board) can take action against them and:

- Sue for damages, where the company has incurred a loss as a result of the director's action
- Demand the return of a secret profit that the director has made, or specific property
- Declare the director's act invalid
A director may be guilty of a criminal offence in the following circumstances:

- Failure to act honestly and use reasonable care and reasonable diligence in the discharge of his/her duties.
- Made improper use of any information acquired by virtue of his position to gain a personal advantage or cause harm to the company.
- Failure to sufficiently disclose personal interests in transactions with the company.

## 2 Role of the Board

### SECTION INTRODUCTION

This section considers the role of the Board of Directors in a company. It is strongly recommended that you should learn and understand the principles and provisions of the Code of Corporate Governance 2012. In your examination, you may be required to apply the provisions of the Code to a specific case study question, and explain (with reasons) whether the company is complying with the Code or is in breach of it.

The Code of Corporate Governance 2012 (Principle 1) states: 'Every company should be headed by an effective Board to lead and control the company. The Board is collectively responsible for the long-term success of the company. The Board works with Management to achieve this objective and Management remains accountable to the Board.'

The emphasis is on long-term success. The Board should not pursue short-term advantage if this is not in the longer-term interests of the company.

### 2.1 Role of the Board and the Code of Corporate Governance

The Code of Corporate Governance (Guideline 1.1) identifies six key roles of the Board:

1. It should provide entrepreneurial leadership. This involves setting strategic objectives for the company, and also ensuring that there are sufficient financial, human and other resources in place to enable the company to meet these objectives.
2. It should establish a framework of prudent and effective controls which enables risks to be identified, assessed and managed. The Board is responsible for safeguarding shareholders' interests and the company's assets.
3. The Board reviews management performance. Management must be accountable to the Board.
4. It should identify key stakeholder groups and recognise that the perceptions of these stakeholder groups affect the company's reputation.
5. The Board should set the company's values and standards, including ethical standards. It should also ensure that the company's obligations to shareholders and other stakeholders are understood and met.
6. It should consider sustainability issues when formulating strategy. Sustainability issues include environmental and social issues.

The Board provides leadership, and should not relinquish the responsibility for leadership to the company's management. It should also be entrepreneurial, which means that the Board should be able to identify opportunities and be prepared to accept risks in pursuit of the company's objectives. It must not be a bureaucratic body that delays and stifles decision-making.
The Board should ensure that an effective system of **risk management** is in place. Management is responsible for the implementation of risk management measures, but the Board provides the direction and monitors the effectiveness of the risk management system.

The Code does not indicate who the **key stakeholders** may be, but they will include shareholders and, in most cases, bondholders and lenders, employees and regulators. In companies with a majority shareholder, the Board should recognise the differing perceptions and interests of the majority shareholder and the minority shareholders.

The company's **obligations to other stakeholders** extend beyond the key stakeholders. A company has legal obligations to its employees; it has an ethical obligation to pay suppliers on time; it has a responsibility to comply with regulations and laws; it may also recognise an obligation to provide products to customers that meet customer needs and expectations.

**Sustainability**, or sustainable development, means meeting the needs of the present without compromising the ability to meet the needs of the future. It is associated with issues such as protection of scarce natural resources such as water, oil and timber; and protection of air, water and land against damaging pollution. Sustainability is also concerned with the use of renewable resources, such as renewable sources of energy, instead of non-renewable resources.

### 2.2 Tone at the top

A Board of Directors provides leadership, and other individuals who work for the company will take their lead from the Board as a unit and from individual directors. The Board provides guidance about what is expected and the way that things should be done.

- If the Board does not uphold ethical standards of behaviour, others in the company will assume that unethical practices are acceptable.
- If the Board does not show concern for the management of risk in pursuit of profitability, employees will be encouraged to pursue profits even if it exposes the company to excessive risks. In a guideline paper on the Board and senior management for banks and other financial institutions, the Monetary Authority of Singapore states: 'The Board should set the tone from the top and inculcate an appropriate risk culture throughout the institution.'

The ethical behaviour and ethical standards of the most senior Board members, particularly the Chairman, Chief Executive Officer and Chief Finance Officer, are particularly important in setting the tone at the top. Poor ethical standards from the most senior individuals on the Board could have adverse implications for the company's reputation with investors, as well as providing an unacceptable role model for employees of the company.

### 2.3 The Board of Directors and management

Except for its role in monitoring management, the Board should not get involved in day-to-day operational affairs. **Decision-making at an operational level is the responsibility of management**, and management should be accountable to the Board for the decisions they take and the performance of the company in meeting its objectives.

This is an important point about governance. **The Board of Directors and board committees are not executive bodies**. Some directors are executive directors; this means that they combine the role of executive of the company with the role of Board Director. Executive directors take executive action as executives of the company, not as Board Directors.

The Board must make some decisions, in order to fulfil its role of leadership, and the dividing line between decision-making by the Board and decisions that are an executive responsibility is not always easily defined. In particular, the Board should take decisions that have important consequences for the objectives and strategic direction of the company, such as decisions about large takeovers, major capital
expenditure, financial structure and new share issues. Defining 'large' takeover or 'major' capital expenditure, however, is a matter for each company to establish.

2.4 Matters reserved for the Board

In order to clarify the responsibilities of the Board and management for decision-making within the company, there should be a formal document that lists the decisions that must be taken by the Board of Directors and not by management. This written document may be referred to as the list of 'matters reserved for the Board'.

The Code of Corporate Governance (guideline 1.5) states that every (listed) company should have a document containing guidelines that specify 'the matters reserved for the Board's decision', and gives clear direction to management on matters that should be referred to the Board for a decision.

- It is the responsibility of management to refer these decisions to the Board.
- It is also the responsibility of the Board to ensure that management do not usurp its authority, and take decisions that should be taken by the Board.

The Board should provide entrepreneurial leadership. When taking responsibility for decision-making, the Board should not slow down the decision-making process unreasonably.

Each company decides the matters for decision-making by its Board. The Code of Corporate Governance indicates that it should be a formal written document but does not indicate what the decisions for the Board should be. In the UK, guidance has been issued by the Institute of Chartered Secretaries and Administrators (ICSA), which suggests that decisions for the Board should include:

- Approval of overall strategy and objectives
- Approval of annual operating and capital expenditure budgets
- Oversight of operations (including accounting and risk management and internal control systems)
- Review of management and operational performance (and decisions arising from unsatisfactory performance)
- Monitoring compliance with legal and regulatory requirements
- Changes in capital structure of the company
- Deciding the risk appetite for the company: this is the amount of exposure to risk that the board considers acceptable in the pursuit of business objectives
- Approving the annual report and accounts
- Deciding dividend payments
- Approving formal communications with shareholders
- Approval of major contracts and investments
- Approval of major policy matters, such as social and environmental policies and health and safety policies
2.5 Frequency of board meetings

To fulfil its role effectively, the Board should meet frequently. The Code of Corporate Governance (guideline 1.4) states simply that ‘the Board should meet regularly and as warranted by particular circumstances, as deemed appropriate by the Board members.’

It is probably ‘ideal’ for the Board to meet in the same location, but the Code goes on to state that companies ‘are encouraged’ to amend their constitution (Articles of Association) to provide for meetings by telephone/telephonic communication or videoconferencing.

The Board should disclose in the annual report the number of meetings it has held during the year, and the attendance record of each director. This should help shareholders to assess the amount of effort that the Board is putting into its role, and whether this seems adequate (or excessive).

2.6 Time commitment by directors

Directors should commit sufficient time to fulfil their responsibilities. The problem is greater for non-executive directors, because executive directors are full-time employees who should therefore commit all or most of their time to the company's affairs.

- The UK Corporate Governance Code states that commitment for non-executive directors should be set out in their letter of appointment, and on accepting their appointment to the Board, they should confirm that they will commit the required amount of time, sufficient to discharge their role.

- There may be problems when an individual holds several directorships with different companies. The Singapore Code (guideline 4.4) states that when an individual has ‘multiple board representations’, he/she must ensure that they give sufficient time and attention to the affairs of each company. The Board should also decide the maximum number of directorships of listed companies that any of its directors should hold.

2.7 Induction and training for directors

Directors should have an appropriate amount of knowledge and understanding to carry out their role. They should know about the company and its operations. This should not be a problem for executive directors, but non-executive directors may know very little about the company before their appointment to the Board.

Newly-appointed executive directors may know little about their responsibilities as a director.

Individual directors should also keep themselves up to date with developments in their industry and in regulations.

In banking, it is also important for directors to have a particularly good understanding of risks.

An important aspect of good corporate governance is therefore to provide directors with the knowledge that they need. This should be provided by:

- Induction for new directors, and
- Continual training for all directors, at the company’s expense

The Board Chairman should be responsible for ensuring that induction is given to every new director and that all directors receive regular training that will help them to perform their role better.

2.7.1 Induction for new directors

Induction is a process by which newly-appointed directors are introduced to their role and are given a tailored introduction to the affairs and operations of the company, the workings of the Board of Directors and their role as directors.
Induction should be tailored to the specific needs of the individual. Newly-appointed non-executive directors, for example, will need introduction to the company's operations, its products or services, its leading executive managers and main operating locations.

A programme of induction may be spread over a period of time, and include:

- Providing the new director with copies of the minutes of previous Board meetings, in order to learn what the Board has discussed, how it operates, the important decisions it has made, the issues that may have caused disagreement between Board members and so on.
- Where the director is appointed to a Board committee, providing him or her with minutes of previous committee meetings.
- Arranging meetings with senior executives of the company.
- Arranging site visits to major operational centres and demonstrations of the company's products.
- Possibly arranging meetings with some shareholders, particularly any major shareholder.

Induction should also cover the individual's duties as a director, and how to discharge those duties. It should also familiarise the individual with the company's governance practices as well as its business operations.

In the UK, the Higgs Report (2003) suggested that the following matters might be covered by an induction programme.

| Build an understanding of the nature of the company, its business and its markets | • The company's culture and values |
| • The company's products or services |
| • The group structure; subsidiaries; joint ventures |
| • The company's constitution, Board procedures and matters reserved for the Board |
| • The company's principal assets, liabilities, significant contracts and major competitors |
| • Major risks and risk management strategy |
| • Key performance indicators |
| • Regulatory constraints |

| Build a link with the company's people | • Meetings with senior management |
| • Visits to company sites other than headquarters, to learn about production and services and meet employees |
| • Participating in the company's strategy development |
| • Obtaining a briefing on internal procedures |

| Build an understanding of the company's main relationships, including meeting with the auditors | • Major customers |
| • Customer relations policy |
| • Major suppliers |
| • Major shareholders |
| • Auditors |
2.7.2 Continual training

The Code of Corporate Governance (guideline 1.6) states that ‘all directors should receive regular training, particularly on relevant new laws, regulations and changing commercial risks, from time to time.’ The company should also be responsible for arranging and funding the training of directors.

The Board should also disclose in the company’s annual report details of the induction, orientation and training provided to new and existing directors.

2.8 Access to information

Information is essential for good decision-making and the Board of Directors must be provided with the information needed to make decisions and fulfil their duties and responsibilities.

The need for information applies to the Board of Directors as a whole, and it also applies to individual directors. Individuals cannot assess a problem or reach a judgement without the information required to develop a properly-balanced view. The information should be reliable, which means that it should be complete and sufficient for the director's requirements ('adequate').

- The main source of information for directors comes from the management. It is often presented in the form of board papers, such as performance reports, budgetary control statements and proposals from the management team.

- Directors may obtain some information from other sources within the company, such as meetings with management, site visits or information and advice on governance or legal issues from the company secretary. The main Board needs information from its various committees, in order to assess the work of the committees and respond to recommendations from the committees.

- Directors may obtain information from external sources outside the company, which they gather on their own initiative or which is reported to them by management or fellow directors.

Directors also need information at an appropriate time. 'Timely information' is information that is provided in time for the individual to reach a judgement for the purpose of decision-making. For a director, this often means receiving papers for the next board meeting in good time before the meeting, sufficient to give him or her time to read the papers and digest their content.

The guidelines in the Code of Corporate Governance go into some detail about access to information.

(a) Management has an obligation to provide the Board of Directors with the information that it needs to make its decisions. This information should be complete, adequate and timely. (Guideline 3.2)

The Board should not rely entirely on the information that management 'volunteers' to provide.

(b) Directors may need to take the initiative and ask management to provide specific additional items of information. They should have the right to approach any manager to ask for this information, and the manager should provide the information required 'in a timely manner'.

(c) Management should not be able to hide information from board members or show reluctance to provide information when asked.
(d) The information provided by management will include board papers and related materials, copies of budgets, forecasts and monthly internal financial statements. Any material variances between budget targets and actual performance should be disclosed and explained.

There may be occasions when one or more directors feel that they need independent advice from an external professional source. For example, they may have concerns about the legality or financial prudence of measures proposed for discussion by the Board. The Code of Corporate Governance states that there should be a procedure by which individual directors, or a group of directors, can obtain independent professional advice at the company's expense. (The director or directors should then be expected to make this advice known to the rest of the Board.)

2.8.1 Directors' access to information via the company secretary

Directors should have access to the company secretary. Under the direction of the Board Chairman, the company secretary should ensure that there is good information flow between the Board and its committees and between management and non-executive directors.

- The company secretary should advise the Board on governance matters.
- The company secretary should also assist in the induction of newly-appointed directors and arrange for the training or professional development of directors, where necessary.
- The company secretary's role includes ensuring that proper procedures are followed in the conduct of the Board's affairs and that corporate governance guidelines are applied within the company.

If the Chairman or CEO tries to ignore procedures or governance requirements, it should be for the company secretary to raise the issue with the 'offender' to the rest of the Board if necessary. It is therefore essential that the company secretary should not have to rely on a powerful board figure for security or employment and remuneration. The Code of Corporate Governance (guideline 6.4) states that the appointment and removal of the company secretary should be a matter for the Board as a whole, not for any individual on the Board.

**Question 9.1**

A listed company in Singapore has been successful for many years, and its annual profits have grown at about 5% each year for the past five years. However, it has been losing market share to some of its competitors. The newly-appointed Board Chairman thinks that part of the problem is that the company has an ineffective Board. The Board members, including some highly qualified NEDs, collectively have a broad range of knowledge, experience and skills, but the Board is not functioning as well as it should do.

The company secretary offers the opinion that the Board does not monitor management performance well enough. Explanations from the CEO to the Board about company performance are accepted without much questioning from any Board member. In addition, the CEO and the management team appear to take too many decisions without referring the matter in the first instance to the Board.

**Required**

Suggest what the weaknesses might be in boardroom practice and boardroom behaviour, and recommend improvements that might create a more effective Board.
A Board of Directors provides leadership to a company and sets the tone at the top, providing an example of behaviour that other employees will follow. The Board has certain roles: it also has responsibility for major decisions, and the decision-making responsibilities of the Board and of management must be clearly specified.

To perform its duties effectively, the Board should meet as frequently as necessary, and individual directors should receive appropriate induction on first joining the Board and ongoing training as required, at the company's expense. The Board (and individual directors) must also obtain complete, adequate and timely information to enable them to perform their role effectively.

3 Size and composition of the Board

3.1 Size of the board

The size of a Board of Directors is likely to vary with the size of the company and possibly also the industry or business sector in which it operates.

- The Board should not be larger than it needs to be. With a large Board, there are more individuals whose opinions should be considered at Board meetings. It will take longer to discuss agenda items at meetings, which may therefore become long and time-consuming. An excessive Board will also cost more in directors' fees than the company needs to pay.

- However, a Board should be sufficiently large so that its members collectively have the knowledge, skills and experience to make effective decisions. Directors may not individually have all the skills, knowledge and experience to fulfil the roles of the Board, but collectively, the Board should have.

The Code of Corporate Governance contains a guideline that reflects the need to find a suitable and appropriate size for the Board, one that is neither too small nor too large. It states that the Board should 'examine' its size with a view to assessing the effect of its size on its effectiveness as a decision-making body (guideline 2.5).

- Size should take into consideration the scope and nature of the company's operations and the requirements of the business.

- The Board should not be so small that there may be undue disruptions to its activities when there is a change in the membership of the board or a board committee.

- On the other hand the Board should not be 'so large as to be unwieldy'.

3.2 The composition of the Board

The composition of a Board of Directors depends partly on its size. The Board of a public listed company commonly consists of a:

- Chairman
- Possibly a deputy Chairman
- CEO
• Lead independent director
• Executive directors (normally including the CEO)
• Non-executive directors who are not independent
• Independent non-executive directors

Together the Board should have the skills, experience and knowledge to fulfil the roles of the Board. In addition, good corporate governance requires that:

• The Board should be able to make decisions that are in the best interests of the company
• The Board should not be dominated by an individual or small group of individuals

The balance and composition of the board is discussed in more detail later in this chapter.

3.3 Executive directors

A Board includes both executive directors and non-executive directors.

Executive directors are senior executives of the company who are also members of the Board. They have two roles:
(a) as manager
(b) as board director

Executive directors should try to act as directors in board meetings, rather than as members of the CEO's executive management team. In practice it may be difficult for an individual to do this, and challenge the views of the CEO.

The Chief Financial Officer (CFO) or finance director is in a unique position, because he or she is responsible for providing the Board with high quality information, and may present the annual budget for Board approval. The CFO may have technical knowledge and skills that the CEO does not have.

Executive directors should try to work constructively with the non-executive directors. Guidance in the UK (from the Financial Reporting Council) suggests that executive directors: ‘should appreciate that constructive challenge from NEDs is an essential aspect of good governance, and should encourage their non-executive colleagues to test their proposals in the light of the non-executives' wider experience outside the company.’

3.4 Non-executive directors (NEDs)

A non-executive director (NED) is a member of the Board of Directors who:

• Does not have any executive responsibilities, and
• Is not a full-time employee of the company.

NEDs are appointed under the terms of a fixed-term service contract which may be renewed at the end of its term.

The purpose of NEDs is to:

• Bring judgement and experience to the discussions of the Board that the executive directors on their own would lack, and possibly also
• Represent the interests of another person, such as a family shareholder.

NEDs may or may not be independent.

The role of independent NEDs is critical in ensuring that there is a strong and independent-minded Board of Directors and the Board should not be dominated by individuals or small group of individuals. The independence element of the Board is discussed in a later section of this module.
3.5 Board diversity

It has been suggested previously that the Board collectively should contain a suitable range of skills and experience. This requirement is included in the Code of Corporate Governance (guideline 2.6):

- The Board and its committees should comprise individuals who collectively have an appropriate balance and diversity of ‘skills, experience, gender and knowledge of the company.’
- These skills should cover ‘core competencies’ such as accounting and finance, business or management experience, industry knowledge, strategic planning experience and customer-based experience or knowledge.

The Code does not say how the required skills and knowledge should be shared between the Board members, and between executive and non-executive directors. The executive directors should collectively possess many of these required qualities: strategic planning experience, accounting and finance knowledge (the finance director or CFO), industry knowledge and business experience (guideline 2.6).

The main issue with diversity would appear to be the required skills and experience of the non-executive directors, which should be sufficiently diverse to:

- Fill in gaps in knowledge and experience that the executive directors do not possess, and
- Have suitable skills for membership of one or more of the board committees.

For example, NEDs come from a different background: they may come from a different part of the world, or they may have particular expertise in an aspect of finance or in the workings of government or regulators. If so, they may be able to contribute different ideas and views to board discussions and decision-making.

Diversity also means diversity in both gender and age of Board members. Greater diversity provides the Board with a wider range of perceptions and experience, which can improve the quality of its collective decision-making.

3.6 Functions of non-executive directors

The Code of Corporate Governance sees two main roles for non-executive directors (both independent and non-independent NEDs) (guideline 2.7):

- To make constructive challenges and help develop proposals on board strategy.
- To review the performance of management in meeting their agreed goals, and also monitoring the reporting of performance by management. To perform this role more effectively, the Code suggests that the NEDs should meet regularly on their own, without any executives present.

NEDs arguably have a difficult task of reconciling two roles:

- Being a colleague of executive directors in developing strategies at board level.
- Providing oversight of the executive directors, in monitoring and challenging management performance.
In the UK, the Higgs Report (2003 and revised in 2006) looked at the role and effectiveness of NEDs. It suggested that non-executive directors perform four types of role or function.

- **Strategy.** NEDs help the Board to develop proposals on strategy.
- **Performance.** NEDs scrutinise the performance of executive management.
- **Risk.** NEDs should satisfy themselves about the integrity of financial information and that the systems of internal controls and risk management are robust.
- **People.** NEDs are responsible for deciding the level of remuneration for executive directors, and should have a prominent role in appointing directors (and removing them where necessary) and in succession planning for future appointments to the Board.

These roles explain the requirements for audit, remuneration and nominating committees consisting entirely or mainly of independent NEDs. Board committees are discussed in the next chapter.

### 3.7 Alternate directors

An alternate director is an individual who stands in as director for another person who is a director, in circumstances where the ‘real’ director is unable to perform his or her duties. An alternative director is a temporary appointment, but during that time has all the duties and responsibilities of a director.

The Code of Corporate Governance (guideline 4.5) states that:

- The Board should, in general, avoid appointing anyone as alternate director.
- Alternate directors should be appointed for only a limited time and in cases such as when a director has a medical emergency.

If an alternate director is appointed, he or she should be familiar with the company's affairs and appropriately qualified.

### SECTION SUMMARY

This section has considered the size of the Board of Directors and has begun to consider the composition of the Board, particularly in terms of executive and non-executive directors. The following sections go on to consider the balance of power on the Board and the need for a strong and independent element amongst board members; and the roles of the Board Chairman and Chief Executive Officer.

### 4 Board balance and independent directors

#### SECTION INTRODUCTION

A principle of good corporate governance is that there should be a strong and independent-minded Board of Directors, and that the Board should not be dominated by an individual or small group of individuals. In Singapore there is growing awareness of the role of independent non-executive directors in bringing a requirement amount of independence to boardroom thinking and decision-making.
4.1 The need for a strong independent element on the board

In order to ensure that balance of the board is maintained, corporate governance codes recommend that the board sets up a nomination committee, made up wholly or mainly of independent non-executive directors, to oversee the process for board appointments and make recommendations to the board. The nomination committee needs to consider:

- The balance between executives and independent non-executives
- The skills, knowledge and experience possessed by the current board
- The need for continuity and succession planning
- The desirable size of the board
- The need to attract board members from a diversity of backgrounds

The nomination committee should ensure that appointments to the board are made using objective criteria. However, the criteria should not be so restrictive that it limits too greatly the number of candidates.

With this in mind, the Code of Corporate Governance (principle 2) states that there should be a strong and independent element on the Board of Directors, which is able to 'exercise objective judgement on corporate affairs independently... No individual or small group of individuals should be allowed to dominate the Board's decision-making.'

Independence of judgement means considering issues and reaching conclusions that are in the best long-term interests of the company as a whole. Independence is most likely to come from independent NEDs.

Executive directors or non-executive directors:

- With close links to the company's management are likely to have a bias in favour of management.
- May also be under the influence of a major shareholder. This is particularly true in the case of non-independent directors who are close family members of the controlling shareholder.

The Code of Corporate Governance (principle 2) states that 'independence' means independence from either (or both):

- Management, and
- 10% shareholders: these are shareholders with an interest in 10% or more of the company's voting shares.

The Code recognises that a shareholder does not need to be a controlling shareholder in order to exercise considerable influence over one or more directors.

4.2 Code guidelines on Board composition

The Code of Corporate Governance contains guidelines about the composition of the Board, and the minimum independent element required. The rules were changed in the revised version of the Code 2012.

(a) The basic rule is that in order to achieve a strong independent element on the Board, at least one-third of the Board should consist of independent NEDs (guideline 2.1).

(b) A change introduced in the 2012 version of the Code is that when there is a situation where the Chairman of the Board is not independent, the independent element on the Board should be even larger, and at least one-half of the Board should consist of independent NEDs (guideline 2.2). The situations where this 'one-half' rule applies are:

- The same individual holds the positions of both Board Chairman and CEO
- The Chairman and CEO are immediate family members. (Immediate family members are the individuals' spouse, child, adopted child, step-child, brother, sister or parent.)
- The Chairman is part of the management team
- The Chairman is not an independent director
In theory, independent directors should create a suitable balance of power on the Board. A powerful Chairman or CEO, or a large shareholder, might be able to dominate or strongly influence other directors, but independent NEDs should be able to bring different views and independent thinking to Board deliberations. Decisions taken by the Board should therefore be made with suitable recognition of the interests of the company as a whole and its various key stakeholders, and so more in keeping with the aims of good corporate governance.

The requirement for at least one-half of directors to be independent on the Board where the Chairman is not independent was introduced in the 2012 revision of the Code of Corporate Governance, with a transition period allowed to companies to give them time to comply with the new requirement.

- It was predicted that many listed companies would need to appoint more independent directors to comply with the Code.
- However there is uncertainty about how effective the requirement for more independent directors might be in creating a more balanced Board. Experience over time will show whether independent directors have a significant effect on boardroom decision-making. Independent directors are not appointed as adversaries of non-independent directors. They are appointed to make judgements that they consider are in the best interests of the company. The most effective Boards are probably those that reach consensus and agreement among all their members: split votes at Board meetings are probably not conducive to good governance.

4.3 Judging 'independence'

Executive directors cannot be independent. They are involved in running the company's business and they report in an executive capacity to the CEO. They also rely on the company for all or most of their remuneration from working.

Independent NEDs should bring independent judgement to discussions and decision-making by the Board. However, they may be in a difficult position, because they have the same duties and responsibilities as executive directors, and could be legally liable in the same way. As fellow directors, they may be reluctant to accuse other directors of unethical or improper behaviour. If they have been selected and appointed by the Chairman, CEO or majority shareholder, they will be less likely to ask tough questions.

If an NED is likely to agree with the views of the Board Chairman, CEO or majority shareholder, he or she is unlikely to bring balance of power to the Board. The independence of an NED should be called into question, for example, if the individual:

- Has a family connection with the majority shareholder, Chairman, CEO – which is common in family-controlled public companies.
- Was until recently an executive director in the company. A former executive director may be appointed as a NED on his/her retirement. When this happens, the individual's judgements are likely to remain favourable to the executive management, and the NED is unlikely to criticise management in a way that could reflect adversely on his/her own performance as an executive manager prior to retirement.
- Until recently worked for the company in a professional capacity, for example as its auditor or corporate lawyer.
- Receives payments from the company in addition to fees as a director. A person cannot be independent if he/she stands to benefit substantially from income from the company, in addition to his/her fee as an NED. NEDs cannot be properly independent, for example, if they accept a fee from the company for consultancy work. Consultancy involves the individual in the operational aspects of the company, and by implication puts him/her on the side of the executives. (Code guideline 2.3)
When NEDs are appointed to represent the opinions of a major shareholder, the individual can be expected to voice the wishes of the shareholder, and so could not be regarded as independent. To ensure that NEDs should not rely for their appointment on one or two individuals, the Code of Corporate Governance states that there should be a 'formal and transparent process' for appointments and re-appointments of directors to the Board (principle 4). This is covered in more detail in the next chapter.

4.4 Deciding independent status: Code guidelines

The requirement for a minimum proportion of independent directors on the Board raises the question: 'How is the independence or non-independence of an individual decided?'

The Code of Corporate Governance provides guidance on this matter in guideline 2.3. It states that an 'independent' director is: ‘One who has no relationship with the company, its related corporations (other group companies), its 10% shareholders or its officers that could interfere (or reasonably be perceived to interfere) with the exercise of the individual director's independent business judgement in the best interests of the company.’

The Board itself decides whether an individual is ‘independent’, and identify in the annual report each director that it considers to be independent.

- The Board should take into account the views of the Nominating Committee (whose role is described in the next chapter).
- Directors are also required to inform the Board of any relationship that affects their actual or perceived independence.

4.4.1 Criteria for judging independence

The Code of Corporate Governance (guideline 2.3) contains guidelines for judging the independence of an individual. An individual will normally be considered 'not independent' if they are:

- A director in the employment of the company or a related corporation at any time in the current financial year or three preceding financial years. (A related corporation is a holding company or subsidiary company in the same group).

- A director who has an immediate family member who has been in the employment of the company or a related corporation at any time in any of the past three financial years, and whose remuneration (as a senior executive) is/was decided by the Remuneration Committee.

- A director, or a director with an immediate family member, who has accepted significant compensation from the company (or any related corporation) for the provision of services, other than compensation for service on the Board, at any time in the current or immediate past financial year.

- A director, or director with an immediate family member, who in the current or immediate past financial year is or was:
  - A 10% shareholder
  - A partner with a stake of 10% or more
  - An executive officer of
  - A director of:
    any organisation to which the company made or received 'significant' payments or 'material' services in the current or immediate past financial year. (As a guide aggregate payments in excess of S$200,000 over the financial year are generally considered 'significant').

- A director who is a 10% shareholder or an immediate family member of a 10% shareholder.

- A director who is or as been directly associated with a 10% shareholder of the company, in the current or immediate past financial year.
Independence erodes over time, as the individual becomes more familiar with the company, fellow board members and management. The Code therefore requires that in addition, the independence of any director should be ‘subject to particularly rigorous review’ when he or she has served more than nine years on the Board (guideline 2.4).

- The Board should explain in the annual report why it still considers the individual to be independent.
- When keeping the non-executive director on the Board for longer than nine years, consideration should be given to the general requirement for ‘progressive refreshment’ of the board membership.

### 4.4.2 The nine-year ‘rule’ on independence

- The guideline in the Code of Corporate Governance that a NED should not be considered independent after being a board member for over nine years arises from the view that the independence of a NED is likely to diminish over time, as he or she becomes more familiar with the company and executive colleagues. There is a risk that the NED will become more inclined to take the views of executive colleagues on trust and will be less rigorous in raising questions and challenging the executive colleagues’ decisions at board meetings.
- This ‘nine year rule’ exists in other countries, such as the UK, where it is recognised that there will be situations where a company wants to retain a director who has already been on the Board for nine years or more and who they still consider to be independent.
- Even in larger quoted companies there may be a reluctance to lose NEDs after nine years of service, because there is a lack of suitable candidates to replace them. If the Board considers that a director is still independent even after nine years’ service, they may still be considered ‘independent’ for the purposes of the corporate governance provisions.

### SECTION SUMMARY

Good corporate governance requires that there should be a balance of power on the Board and no single individual or small group of individuals should be allowed to dominate decision-making on the Board of a listed company – even when the company has a majority shareholder.

One way of trying to achieve a balance of power is through the appointment of independent directors. Another way, discussed in the next section, is through separation of the roles of Chairman and CEO, or the appointment of a lead independent director.

The Singapore Code specifies a minimum representation of independent NEDs on the Board. There are criteria for judging the independence of a director, and you should be able to apply these criteria to a case study in order to assess whether the composition of a Board complies with the provisions of the Code.
5 The roles of the CEO and Chairman

SECTION INTRODUCTION

This section explains the roles of the Board Chairman and the CEO, and discusses the guidelines for best practice with regard to these two roles.

There should be a clear division of responsibilities between the leadership of the Board and the executives responsible for managing the company's business.

- The Chairman is the leader of the Board.
- The CEO is the leader of the executive team that is responsible for managing the company's business.

5.1 The CEO

The CEO is the senior executive in charge of the management team. All other executives report to the CEO. Other executive managers, such as the Chief Financial Officer, may also be directors of the company, but the CEO is answerable to the Board for the way the business is run by management and for the company's performance. The CEO:

- Makes strategy proposals to the Board
- Possibly in collaboration with the Chief Financial Officer, proposes the annual budget and the capital budget for Board approval
- Proposes major investments or takeovers, for consideration by the Board
- Implements strategy as decided by the Board
- Is accountable to the Board for the performance of the company

As a senior board member, the CEO has responsibilities for presenting information about the company and its performance to shareholders and other investors and investment analysts. This is a role that is commonly shared with the Board Chairman and the Chief Financial Officer.

The CEO should also act as a spokesperson for the executive directors and at Board meetings, where appropriate, the CEO should:

- Explain the views of the senior executives to the rest of the Board, and
- Explain any differences of opinion that may exist within the executive team.

As the head of the management team, the CEO sets the tone at the top, and:

- Provides an example of behaviour and attitude for all other employees to follow, and communicates the company's culture and values.
- Ensures that appropriate standards of governance are applied at all levels within the organisation, for example with regard to risk management and internal controls.

It is worth noting that although it is usual for the CEO to be a member of the Board of Directors, this is not a legal requirement. For example a private company may employ a CEO, and the CEO may be accountable to the Board for the operating performance of the company, but may nevertheless not be a director himself or herself.
5.2 The Board Chairman

The Board Chairman is the leader of the Board and so provides leadership to the Board. He/she is responsible for the effectiveness of the Board of Directors in performing its roles. Although the Chairman in some companies has executive responsibilities as well as responsibility for Board leadership, this is not good governance practice. The Chairman should be non-executive.

The Code of Corporate Governance states that the Chairman should lead the Board ‘to ensure its effectiveness on all aspects of its role’ (guideline 3.2(a)).

A key requirement for achieving an effective Board is to ensure that Board meetings are well conducted and that the Board is able to reach well-informed and well-assessed decisions at its meetings. The following requirements for the effective conduct of Board meetings are included within the Code (guideline 3.2) as responsibilities of the Chairman:

- To set the agenda for Board meetings
- To ensure that the directors receive complete, adequate and timely information for meetings
- To ensure that sufficient time is available at Board meetings for discussion of all agenda items, particularly strategic issues
- To promote a culture of openness and debate, so that items are properly discussed
- To facilitate the contribution of all individual directors to discussions at Board meetings, in particular non-executive directors. (Executive directors should not be allowed to dominate discussions, because they know more about items in detail).

The Board Chairman also acts as spokesperson for the company in its dealings with shareholders (minority shareholders as well as any majority shareholder). The Chairman should present the views of the Board to shareholders, and should also listen to the comments and concerns of shareholders, for reporting back to the Board.

By providing the Board with the views of shareholders, the Chairman should also contribute to the effectiveness of Board discussions, by ensuring that the views of the shareholders are considered.

An effective Chairman is therefore a team-builder. He/she should develop a Board whose members communicate effectively and enjoy good relationships with each other. He/she should also develop a close relationship of trust with the CEO, giving support and advice whilst still respecting the CEO’s responsibilities for executive matters. The Chairman should also ensure that Board decisions are implemented effectively, provide coherent leadership for the company and keep in touch with the views of the shareholders.

Question 9.2

Explain why a separation of the roles of chairman and chief executive is considered best practice in most jurisdictions.

5.3 The Board Chairman and effective relationships

As well as having responsibility for the conduct of Board meetings, the Chairman has responsibility for promoting high standards of corporate governance. Important elements in effective corporate governance are the relationships between:

- Board members
- The main Board and its committees
• Non-executive directors and management: management are often suspicious of non-executive directors, who are 'outsiders' not involved in the day-to-day management of the business. Managers may resent their 'interference' and doubt whether non-executives can provide useful judgements or contribute effectively to decision-making.

The Board Chairman should try to promote constructive relationships between these individuals and groups. This should include ensuring that there is good information flow between the Board and its committees.

5.4 Responsibility for induction, training of directors and performance appraisal

In some countries such as the UK, the Board Chairman is also responsible for:
• Induction of new directors and ongoing training for all directors, because the Chairman should be responsible for standards of knowledge and competence of Board members
• Performance appraisal of the Board and its directors, to assess whether the Board is effective and whether each director contributes sufficiently to the activities and discussions of the Board

In Singapore, the Nominating Committee (NC) of the Board has these responsibilities. The role of the NC is described in the next chapter.

5.5 Independence of the Board Chairman

It is a requirement of the UK Code of Governance that the Board Chairman should be independent when first appointed. The reason for this requirement is that if the Chairman is not independent, there is a risk that he/she will try to steer the Board towards decisions and opinions that fit in with his/her own views, or the views of another person who exerts strong influence over the Chairman.

In Singapore there is no such requirement, and it is recognised that the Board Chairman may not be independent. If the Chairman is not independent, there should be a stronger independent element amongst members of the Board, to act as a counter-balance. This point has been discussed previously in the context of composition of the Board.

5.6 Combining the roles of Chairman and CEO

The Chairman and CEO are the two most powerful individuals on a Board of Directors. If the same individual were to be both Chairman and CEO, he or she would possibly be in a dominant position, and able to exert very strong influence over the rest of the Board.
• As Chairman of the Board, he/she would be expected to lead the review of management performance. As CEO and head of the management team, he/she would be expected to defend and justify management performance.
• There may be a risk that the individual will act in his/her individual interest, and there may be a conflict of interest between the Chairman/CEO and other stakeholders.
• It would be difficult for other individuals on the Board to challenge the views of the Chairman/CEO effectively.

However, it is important to distinguish between:
• A position of enormous power and influence for an individual that is created when the roles of Chairman and CEO are combined and given to one individual, and
• Acting in a dominant or tyrannical way as Chairman and CEO, possibly out of self-interest.
Combining the two roles increases the risk that the company and its Board will be dominated by a tyrannical individual, but this does not happen every time.

There are different views about one person holding the position of both Chairman and CEO. It is common practice in the USA, although not as common as in the past. In the UK, the corporate governance code states that the roles should be kept separate and one individual should not hold both positions. The UK Code also states that an individual should not go on to become the Board Chairman if he or she has previously been the CEO.

The position in Singapore is somewhere between these views. The Code of Corporate Governance states that ‘the Chairman and the CEO should in principle be separate persons, to ensure an appropriate balance of power, increased accountability and greater capacity of the Board for independent decision-making’ (guideline 3.1). It recognises, however, that in practice the same individual may combine the two roles.

The Code also states that the division of responsibilities between the Chairman and CEO should be set out clearly in writing (guideline 3.1). This is to prevent one of them from encroaching on the area of responsibility of the other.

5.7 Lead independent director

5.7.1 Appointing a lead independent director

The Code of Corporate Governance is a voluntary code of practice, although listed companies must explain any non-compliance with the Code in their annual report. As it is only a voluntary code, it must be expected that some companies will choose not to comply with some aspects of the Code. One aspect of governance where non-compliance may be expected in some companies is the independence of the Board Chairman or the relationship between the Board Chairman and the CEO.

The Code (guideline 3.3) recognises that there could be a problem in the circumstances where it also recommends that at least one-half of the Board should be independent directors. These circumstances are where:

- The positions of Chairman and CEO are held by the same individual
- The Chairman and CEO are close family members
- The Chairman is part of the management team (and so an executive, not non-executive)
- The Chairman is not an independent director.

In these circumstances, the Code recommends that the Board should appoint a lead independent director. As the title suggests, this should be an independent director who acts as the leader of the independent directors on the Board. He or she will be considered the ‘senior’ independent director.

5.7.2 Role of the lead independent director

A lead independent director has two main roles.

(a) He or she provides leadership to the independent non-executive directors as a group. By discussing board issues and governance matters as a group, it is more likely that they will help to achieve a balance of power on the Board. As individuals, their views may be discounted by other Board directors. As a group, it is less likely that this will happen. The Code of Corporate Governance recommends that the independent directors, led by the lead independent director, should meet from time to time without any other directors present. They should discuss any matters of concern and the lead independent director should provide feedback to the Board Chairman after each meeting.

(b) There may be occasions when some shareholders are dissatisfied with what the company is doing or with the financial position of the company, or they may have concerns about the Board Chairman or CEO. In normal circumstances, shareholders should address their concerns to the Board members who usually act as their point of contact with the company – the Chairman, CEO
or Chief Financial Officer (CFO). In situations where discussions with these individuals have failed to resolve the problem, or where raising concerns with these individuals may be inappropriate (for example in cases of unethical behaviour by these individuals), the shareholders should be able to raise their concerns with the lead independent director. The lead independent director would then have to decide what should be done to resolve the problem.

5.8 Company secretary

Every company must appoint a company secretary, who must be a natural person and whose principal or only place of residence must be in Singapore. A director of a company may also be the company secretary, except in companies where there is only one director.

A company secretary for a private company does not require any specific qualification, but according to the Companies Act should be ‘a person who appears to have the requisite knowledge and experience to discharge the functions of the secretary of the company.’

The company secretary of a public company, however, must possess at least one of the following qualifications:

- Experience as a secretary of a company for at least 3 of the 5 years immediately before their appointment as secretary of the public company
- Qualified person under the Legal Profession Act (Cap. 161)
- Public accountant registered under the Accountants Act (Cap. 2)
- Member of the Institute of Singapore Chartered Accountants (ISCA)
- Member of the Singapore Association of the Institute of Chartered Secretaries and Administrators
- Member of the Association of International Accountants (Singapore Branch)
- Member of the Institute of Company Accountants Singapore

5.8.1 Role, responsibilities and powers of the company secretary

A company secretary is an ‘officer’ of the company and therefore faces potential legal liability if they contravene legal requirements.

The Companies Act does not specify the role of the company secretary. The secretary should have certain administrative functions relating to:

- Maintaining statutory registers and submitting statutory returns
- Acting as secretary to the Board of Directors (and probably also Board committees) and writing the minutes of Board meetings
- Advising the Board and individual Directors on matters relating to the law and corporate governance

In public companies, the company secretary has an important role in corporate governance, by providing support to the Chairman, the Board of Directors and individual Directors. The Code of Corporate Governance states that the company secretary should be responsible for ensuring that board procedures are followed and that applicable rules and regulations are complied with. The company secretary should attend all board meetings. Under the direction of the Chairman, the company secretary’s responsibilities include:

- Ensuring good information flows within the Board and the Board committees, and between management and Non-Executive Directors.
- Advising the Board on all governance matters.
• Arranging the induction of new Directors when they first join the Board, and as facilitating orientation and assisting with professional development as required.

The appointment and the removal of the company secretary should be a matter for the Board as a whole. This helps to give the company secretary independence from the influence of powerful directors that he or she might otherwise not have.

5.8.2 Directors’ access to information via the company secretary

Directors should have access to the company secretary. Under the direction of the Board Chairman, the company secretary should ensure that there is good information flow between the Board and its committees and between management and non-executive directors.

• The company secretary should advise the Board on governance matters.
• The company secretary should also assist in the induction of newly-appointed directors and arrange for the training or professional development of directors, where necessary.
• The company secretary’s role includes ensuring that proper procedures are followed in the conduct of the Board’s affairs and that corporate governance guidelines are applied within the company.

If the Chairman or CEO tries to ignore procedures or governance requirements, it should be for the company secretary to raise the issue with the ‘offender’ to the rest of the Board if necessary. It is therefore essential that the company secretary should not have to rely on a powerful board figure for security or employment and remuneration. The Code of Corporate Governance (guideline 6.4) states that the appointment and removal of the company secretary should be a matter for the Board as a whole, not for any individual on the Board.

An effective company secretary can therefore help Directors, and especially Non-Executive Directors, to perform their roles in the company more effectively.

Question 9.3

Board balance

Explain the meaning of ‘Board balance’. Identify three ways in which Board balance may be achieved.

Emerging trends and current issues

As mentioned in the previous chapter, in January 2018, the Corporate Governance Council (‘the Council’) published a consultation paper on its proposals to revise the Code of Corporate Governance.

One of the main drivers behind the Council’s proposal was a desire to strengthen board quality. The board is central to good corporate governance, and as Council notes in the consultation paper, a ‘well-rounded board with the appropriate mix of skills, experience and independence is key.’

The Consultation Paper includes a number of recommendations on which feedback is requested, but two of the key areas of focus are:

Enhancing Board composition and diversity – The Council has recommended a new provision that the board should comprise a majority of directors who have no management of business relationships with the company.

The Council has also recommended that companies should disclose their board diversity policy, and progress made in achieving that policy.
Strengthening director independence – The Council has recommended that the threshold at which shareholders can be considered independent (see Section 4.4.1) be reduced from 10% to 5%.

Another option being considered is that the 'nine-year rule' (see Section 4.4.2) should be imposed as a hard limit, meaning independent directors cannot serve more than nine years.

The Council has also recommended that the tests of director independence in the Code should be rationalised, to provide clarity on the circumstances companies need to consider when assessing the independence of each director.

6 Legal and regulatory frameworks for Boards of Directors

SECTION INTRODUCTION

This section makes a brief point that the conduct of companies is subject to regulation by the law, and some aspects of governance are covered by the Companies Act. The section then goes on to describe the Singapore Institute of Directors' Code of conduct for directors.

6.1 Legal and regulatory frameworks

Companies and their directors are subject to legal and regulatory requirements. Some of these are intended to promote high standards of corporate governance.

Company legislation is reviewed from time to time, and amendments to the Companies Act are considered.

- A Companies Legislation and Regulatory Framework Committee (CLRFC) was established in 1999 to review the legislation and recommend changes. The CLRFC reported in 2001.
- The next review of legislation was initiated by the Minister for Finance in 2007, which appointed a Steering Committee to consider and recommend changes. The Steering Committee reported in 2011 and many of the recommended changes were introduced in the Companies (Amendments) Act 2014.

The stated aim of the review of company legislation and amendments to the Companies Act has been explained by the Accounting and Corporate Regulatory Authority was: 'to build an efficient and transparent corporate regulatory framework that supports Singapore's growth as a global hub for business and investors.' In other words, company legislation needs to be maintained at a standard expected by global investors, so that Singapore can develop successfully as a major financial centre.

Company legislation applies to all companies, private as well as public (unless the Act states otherwise). Unlike the Code of Corporate Governance, legislation is therefore able to impose governance requirements on all companies. For example, the Companies Act (section 156) requires directors of a company to disclose conflicts of interest in transactions and shareholdings in the company, and the Companies (Amendments) Act 2014 extended this requirement to CEOs in non-listed Singapore companies who are not Board directors.

As well as the fiduciary duties that directors owe the company as agents, they also have a number of statutory duties. These include:

- To act honestly and use reasonable care, skill and diligence in the discharge of the duties of their office.
Directors should be honest in their dealings and take due care when performing their duties. Courts may consider what a reasonable director would have done in the circumstances when judging whether a director has fulfilled this duty.

- Not to make improper use of any information acquired by virtue of their position as an officer or agent of the company to gain a personal advantage, or cause detriment to the company.

Directors must not take advantage of their position to further their own interests or act in any way that causes the company damage.

- To act in the best interests of the company

Whilst their overriding duty is to the company, in exercising their powers, directors are entitled to consider the interests of the company’s employees generally, as well as the interests of its shareholders.

**Where the company is facing insolvency**, the role of directors as agents of the shareholders changes and they must consider the interests of creditors instead. This is because creditors of an insolvent company are entitled to appoint a liquidator to retrieve the assets to which they have a claim. Directors have a duty to protect the creditors’ interests because they effectively become an agent of them in respect of the assets to which they have a claim.

- To avoid conflicts of interest

Directors must not put themselves in a position where their personal interests are in conflict with those of the company. This means, for example, that a director must not seek to make a personal profit whilst performing their official role unless the company has granted them permission to do so.

- To act for a proper purpose

Directors must exercise their powers for the purposes they are given rather than for any other reason. Acting in the best interests of the company does not always mean the director is exercising their powers for a proper purpose. For example directors may justify the issue of new shares as in the best interests of the company, but they will not be using their powers for a proper purpose if the effect of the share issue is to actually assist a takeover of the company against the wishes of the shareholders.

### 6.1.1 Consequences of a breach of duty by a director

If a director places his or her own interests above those of the company, the director will be liable for any loss caused to the company.

- If the director has profited from his position without the consent of the company (the Board or its shareholders), the director may have to account for the profits to the company.

- Where the director has contracted with the company, for example where the director has sold an asset to the company, the company may be able to avoid the contract, if the contract is in breach of the director's fiduciary duty to the company.

- Where a third party has entered into a contract with a director acting on behalf of the company, the company, knowing that the director of the company has acted improperly, the company may also be able to avoid the contract with the third party.

### 6.2 Code of Conduct for directors

The Singapore Institute of Directors has issued a Code of Conduct for directors, to complement the Code of Corporate Governance. The Code of Conduct sets out the ethical standards that directors should uphold: honesty, integrity, ‘personal excellence’ and accountability. Like the Code of Corporate Governance, the Code of Conduct consists of several principles supported by guidance notes.
### 6.3 Summary of the legal and regulatory frameworks for directors

The heavy influence of the English common law, and to a lesser extent, Indian and Australian statutes, on the development of Singapore law is generally more evident in certain traditional common law areas (such as Contract, Tort and Restitution) than in other statute-based areas (such as Criminal Law, Company Law and the Law of Evidence). In recent times Singapore courts have made significant departures from the decisions of the English courts (even in the traditional common law areas). There is also a greater recognition of local jurisprudence in the development of the common law in Singapore. For example, a single test for establishing duty of care regardless of the type of damages was formulated by the Court of Appeal in 2007.

The common law system in Singapore bears material differences from some Asian countries which have built common law through tradition. In Singapore, the civil law systems place relatively less weight on prior judicial decisions. The common law courts in Singapore generally adopt an adversarial approach in litigation between the disputing parties whilst the civil law judges tend to take a more active role in the finding of evidence to decide the outcome of the case.

<table>
<thead>
<tr>
<th>Aspect of conduct</th>
<th>Principle</th>
<th>Guidance includes:</th>
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<tbody>
<tr>
<td>General</td>
<td>A director has a responsibility to ensure that he/she has the relevant knowledge to discharge his/her duties as a director. A director should fully understand the business of the company.</td>
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<tr>
<td>Due diligence</td>
<td>A director should act with due diligence.</td>
<td>A director should try to attend all board meetings and participate fully in deliberations by the Board. A director should not over-extend himself/herself by accepting too many directorships.</td>
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<td>Honesty</td>
<td>A director should act with honesty and in the best interests of the company</td>
<td>A director must maintain and exercise independence of judgement at all times. 'A director, who is appointed to a board at the nomination of a major shareholder or a creditor, should recognise the particular sensitivity of the position.'</td>
</tr>
<tr>
<td>Conflicts of interest</td>
<td>A director should avoid conflicts of interest with the company and should disclose any contractual interest with the company. A director should 'keep all information acquired as a director confidential and not make improper use of such information'.</td>
<td>Full disclosure of any conflict, or potential conflict, of interest must be made to the board. Where a conflict does arise, a director must consider whether to refrain from participating in the Board debate and/or voting on the matter.</td>
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<tr>
<td>Compliance with laws</td>
<td>A director should take 'all necessary steps' to ensure that he/she and the company comply with the laws and rules.</td>
<td>A director should know about the laws and rules that apply to the company. Where necessary a director should obtain legal or independent professional advice</td>
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<tr>
<td>Access to information</td>
<td>A director should insist on being keep informed, on a timely basis of all important developments affecting the company.</td>
<td>A director must be 'at the forefront' of decision-making by the company.</td>
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In Singapore, divergence between the common law and civil law systems is now less marked than in the past. Singapore has enacted various statutes to govern many specific areas of law to govern perceived gaps when compared to legal framework in Asia. These include the Contract (Rights of Third Parties) Act 2001, the Competition Act 2004 and Consumer Protection (Fair Trading) Act 2004.

The following summary of the main areas of law and regulation affecting directors helps understand the extent to which directors must be vigilant to ensure compliance.

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<th>Main areas of Commercial Law:</th>
<th>Major areas which are influenced by Case law in Singapore:</th>
<th>The main areas of regulation and governance bodies are:</th>
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<td>• Contract law</td>
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<td>• Arbitration</td>
<td>• The Singapore Code on Take-overs and Mergers (MAS)</td>
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<td>– Contracts (Rights of Third Parties) Act</td>
<td>• Company</td>
<td>• Regulation of financial markets (SGX)</td>
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<tr>
<td>– Consumer Protection (Fair Trading) Act</td>
<td>• Conflict of Law</td>
<td>• Regulation of business entities and public accountants (ACRA)</td>
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<td>• Domestic Sales of Goods –</td>
<td>• Offer and Acceptance</td>
<td>• Taxation (IRAS)</td>
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<td>– Sale of Goods Act, Cap 393</td>
<td>• Consideration</td>
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<td>• The law of Credit and Security</td>
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<td>• Intellectual Property Law</td>
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<td>– Copyright Act (Cap 63, 2006 Rev Ed)</td>
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### Main areas of Commercial Law:

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### SECTION SUMMARY

The Code of Corporate Governance is a ‘voluntary’ code for listed companies, but there are various provisions in companies and securities legislation that promote good corporate governance. Singapore must have high standards of company legislation in order to support its development as a major global financial centre.

The Singapore Institute of Directors has published a Code of Conduct for directors, as a complement to the Code of Corporate Governance. The actions of directors can be judged against this Code of Conduct as well as against compliance with corporate governance code.

Legislative requirements relating to corporate governance are described in some detail in a later chapter.
7 Addressing corporate insolvency, including stakeholders and the rights of claimants

SECTION INTRODUCTION

This section covers the process of corporate insolvency which is covered by the Companies Act and makes the point that, in this circumstance, the protection of claimants and the creditors now carries greater legal emphasis.

A company is insolvent if it is not able to meet its financial obligations as they fall due and cannot overcome its financial difficulties. In such circumstances, the company may be dissolved to enable its assets to be liquidated so that its creditors may be repaid all or part of what is due to them. This process by which a company is dissolved is known as winding up or liquidation and is covered by legislation set out in the Companies Act 2006.

There are two means of winding up a company, voluntary and by the courts.

7.1 Voluntary winding up by the members or creditors

A company may be wound up if its members no longer wish the business to continue and resolve to do this by special resolution. In a voluntary winding up, directors of the company make a statement they are of the view that the company will be able to pay its debts in full within a period not exceeding 12 months after the commencement of the winding up.

If the directors do so, the winding up will proceed as a members' voluntary winding up. In such circumstances, the shareholders will appoint a liquidator.

If the directors do not make such a statement, it will be a creditors' voluntary winding up. Here, the directors must call a meeting of creditors in order to appoint the liquidator.

In either case, the Companies Act then requires the liquidator to summon a meeting of creditors and lay before them a statement of the assets and liabilities. When a company is wound up, the realised proceeds from the sale of assets are used to pay off creditors. The remaining balance, if any, is distributed pro rata amongst the shareholders.

7.2 Winding up by the Court

A company may also be compulsorily wound up by an order of court. Under section 253(1) of the Act, a petition to the court to wind up the company may be presented by:

- The company itself;
- A creditor;
- A contributory;
- The liquidator of the company;
- A judicial manager; or
- Various government ministers on specified grounds.

When such a petition is presented, the court pursuant to section 254(1) of the Act may order the winding up of the company in certain circumstances, the more important of which are the following:

- The company has by special resolution resolved that it be wound up by the court;
- The company does not commence business within a year from its incorporation or suspends its business for a whole year;
- The company is unable to pay its debts;
• The directors have acted in the affairs of the company in their own interest rather than in the interests of the members as a whole;
• The court is of the opinion that it is just and equitable that the company be wound up;
• The company has carried on multi-level marketing or pyramid selling in contravention of any written law that prohibits such activities; and
• The company is being used for an unlawful purpose or for purposes prejudicial to public peace, welfare or good order in Singapore or against national security or interest.

Of the above circumstances, the most commonly used is that the company is unable to pay its debts. The Companies Act provides that a company shall be deemed unable to pay its debts if a creditor has served on the company a demand exceeding S$10,000 and the company has, for three weeks thereafter, failed to settle the amount due.

When a winding up commences, a liquidator is appointed by the court to represent the creditors whose interests, in law, are now more important than the shareholders. Under the Companies Act, the powers of the directors cease and shift to the appointed liquidator. The liquidator will realise the company assets and the proceeds are then distributed to creditors, with the balance distributed to the shareholders. In reality, the nature of a winding up by the court means shareholders are unlikely to receive any realised cash after all other liabilities have been discharged.

7.3 Rights of claimants on a winding up

There may be circumstance where creditors receive less as company property has been improperly transferred to third parties as a gift or at undervalue. The Companies Act provides the liquidator with powers to recover such property to support the rights of the creditors. The liquidator must show that the transaction occurred within five years of presentation of the petition to wind up the company and the company was insolvent or became insolvent as a consequence of the transfer of property.

SECTION SUMMARY

Corporate insolvency is covered by the Companies Act 2006. The principle mechanism is for a claimant to petition the court to wind up the company. If granted, a liquidator is appointed whose role is to represent the interests of the creditors and realise proceeds on the sale of assets and distribute fairly to meet all or some of the outstanding liabilities due.

The Bankruptcy Act provides legislation covering the inability of individual to pay their debts, and does not cover corporate insolvency.
Chapter Roundup

Overarching governance requirements contained in Companies Act

Code of Corporate Governance 2012

Voluntary
Board of directors

Composition 6 Key roles Responsibilities

Size Members Meetings Governance Ethics Culture Regulation, Directors’ duties and liabilities

EDs NEDs Chairman

Independent NEDs Guidelines

Lead independent director Board balance

Quick Quiz

1. According to the Code of Corporate Governance, what are the roles of the Board of Directors?
2. What are the provisions in the Code of Corporate Governance about directors who hold positions on the Boards of more than one listed company?
3. What is induction for directors?
4. Information provided to directors should be ____________________, _____________________ and ___________________. (Fill in the missing words.)
5. What are the main functions of non-executive directors?
6. Under what circumstances does the Code of Corporate Governance require that at least one-half of Board members should be independent?
7. A director of a listed company is also the director of a supplier to the company, which in the last financial year supplied goods priced at S$10 million to the company. Would this director be considered independent or not?
8. What are the main functions of a lead independent director?
9. What routes are available to a creditor to recover its debt, if it believes that the company owing the amount is unable to pay it?
Answers to Quick Quiz

1. (a) To provide entrepreneurial leadership.
   (b) To establish a framework of prudent and effective controls.
   (c) To review management performance.
   (d) To identify key stakeholder groups and recognise that their perceptions affect the company's reputation.
   (e) To set the company's ethical values and standards, including ethical standards.
   (f) To consider sustainability issues when formulating strategy.

2. (a) When an individual has 'multiple board representations', he/she must ensure that he/she gives sufficient time and attention to the affairs of each company.
   (b) The Board should also decide the maximum number of directorships of listed companies that any of its directors should hold.

3. A process by which newly-appointed directors are introduced to their role and are given tailored introduction to the affairs and operations of the company, the workings of the Board of Directors and their role as directors.

4. Complete, adequate (sufficient) and timely.

5. (a) To make constructive challenges and help develop proposals on Board strategy
   (b) To review the performance of management in meeting their agreed goals

6. (a) When the same individual is both Chairman and CEO
   (b) When the Chairman and CEO are closely related
   (c) When the Chairman is part of the management team
   (d) When the Chairman is not independent

7. No. He or she is a director of an organisation to which the company made or received 'significant' payments in the current or immediate past financial year, in excess of S$200,000.

8. (a) To act as leader of the independent directors on the Board
   (b) To act as a point of contact for shareholders whose concerns have not been resolved in a satisfactory way through normal channels of communication with the company

9. Under the Companies Act, the most common ground to wind up a company on the grounds of insolvency is that the company is unable to pay its debts. If the amount is greater than S$10,000 and the outstanding amount remains unpaid three weeks after the creditor has served notice that it requires payment, then the creditor can petition the court for a winding up order. If granted, the court appoints a liquidator who will dissolve the company and seek to realise the value of the assets and distribute the proceeds.

   Creditors may also apply for an order of judicial management. The court may grant this if it is shown that there is a reasonable prospect of rehabilitating the company or preserving all or part of the business as a going concern, or the interests of creditors would be better served by judicial management than by a winding-up.

   If the court grants an order for judicial management, the business and property of the company will be managed by a judicial manager. During the period of the judicial management:

   - The company may not be wound up
   - No receiver may be appointed
   - There will be a moratorium on legal proceedings against the company or any attempts to enforce any security against company assets
9.1

The Board does not seem to be acting as an effective decision-making body. The CEO and management team may be taking decisions that should be reserved for the Board. There should be a formal list of matters reserved for the Board and the Chairman should ensure that these matters are included in the agenda for Board meetings and decided at Board level.

The new Chairman needs to re-establish the authority of the Board over management, and before making any statement to the other Board members they should speak privately to the CEO, to discuss the need for changes.

The Chairman should hold board meetings as frequently as necessary to enable the Board to carry out its responsibilities fully.

The Chairman should ensure that management provide the Board with complete, sufficient and timely information so that it can make its decisions. This information should be received by the directors in time for them to read the papers in advance of the next Board meeting.

The Chairman should ensure that the agenda for each board meeting is appropriate, so that the Board will have time to discuss all relevant issues. Meetings should be clearly minuted to indicate decisions reached by the Board and action points for which individual Board members are responsible.

The ineffectiveness of the Board may be attributable not only to boardroom practice, but to the attitudes of Board members. The NEDs may be reluctant to question assumptions and established viewpoints of executive management. The Chairman, as leader of the Board, should encourage constructive input at Board meetings from all the directors. Where NEDs are not sufficiently familiar with the company's operations or with relevant legislation or regulations, they should be given more training.

9.2

Having the same person in both roles means that power is concentrated in one person. A common feature of governance scandals that have prompted the development of guidance has been an individual exercising excessive power. There should be a clear division of responsibilities between the leadership of the Board (the Chairman) and the leadership of the executives responsible for managing the company's business (the Chief Executive).

**Accountability**

The board cannot make the chief executive truly accountable for management if it is chaired and led by the Chief Executive. The Chairman carries the authority of the board and the Chief Executive carries authority delegated by the board. Separating the roles emphasises the Chief Executive’s accountability to the board's leader, the Chairman, and also the shareholders whose interests the Chairman represents. Separation should reduce the risk of conflicts of interest where the Chairman/Chief Executive focuses on their own self-interest.

**Demands of roles**

Splitting the posts between different people reflects the reality that both jobs are demanding roles and no one person will have the skills and the time to do both jobs well. The Chief Executive can concentrate on running the company's operations, developing business and risk management strategy, reviewing investment policy and managing the executive team. The Chairman can concentrate on running the board effectively and ensuring that directors develop an understanding of the views of major investors.

Under governance best practice, the Chairman should be an independent non-executive director, and hence well-placed to adopt a supervisory and monitoring role.
Governance requirements

Splitting the roles ensures compliance with governance requirements and reassures shareholders. Investor confidence is important in maintaining company value and sometimes compliance with governance best practice is needed to maintain confidence.

9.3

Board balance exists where no individual or small group of individuals can dominate decision-making by the Board of Directors. Three ways in which Board balance might be achieved:

1. There should be a sufficient number of independent directors.
2. The roles of the Chairman and CEO should be kept separate, to prevent the creation of an all-powerful leader of the Board.
3. The independent directors may take collective measures, under the leadership of the lead independent directors, to exert their influence on decision-making by the Board.
The Board of Directors delegates some of its responsibilities to Board committees, in order to spread the work load between the directors and to make more efficient use of directors' time. The committees report back to the Board with advice and recommendations, for the Board as a whole to make decisions.

From the perspective of corporate governance, the most important Board committees are the Nominating Committee (NC), the Remuneration Committee (RC) and the Audit Committee (AC). Some company boards may also have a Risk Committee.

The NC has a role in making recommendations for the nomination or re-nomination of individuals to positions on the Board, in succession planning for the Board and in the annual performance evaluation of the Board, its committees and individual directors.

The RC has responsibilities with regard to the remuneration of executive directors and other senior executives. This relates mainly to remuneration of executive directors as managers in the company, rather than to remuneration as a Board director. Directors' remuneration can be an emotive issue, and there are legal, regulatory, ethical and competitive issues involved.

This chapter looks at the roles of the Board committees and in particular detail at the issues of annual performance assessment and directors' remuneration.
### Syllabus Handbook

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<td>• Remuneration committees;</td>
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<td>• Nomination committees;</td>
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<td>• Risk committees; and</td>
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<td>• Audit Committees.</td>
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<tr>
<td><strong>Directors’ Performance Evaluation and Remuneration</strong></td>
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<td>Explain and analyse the general principles for assessing the performance and remuneration of directors.</td>
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<td>Explain and analyse the legal, ethical, competitive and regulatory issues associated with directors’ remuneration.</td>
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<td><strong>Emerging trends and current issues</strong></td>
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<tr>
<td>Summarise the key issues in relation to both domestic and international emerging trends and current issues.</td>
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### ESSENTIAL READING

- Singapore Exchange Listing Rules and adequacy of internal controls: see Rule 610 (5) and (6) and Chapter 12(07); also
1 Nominating Committee (NC)

SECTION INTRODUCTION

The Code of Corporate Governance requires companies to establish a Nominating Committee (guideline 4.1). This section looks at the various roles of the NC, which are concerned largely with nominations for appointments and re-appointments to the Board of Directors.

A principle of the Code of Corporate Governance (principle 4) is that there should be a process for making appointments and re-appointments to the Board of Directors that is both:

- Formal, and
- Transparent.

The process should be clear to stakeholders with an interest in board appointments, particularly shareholders and other investors. A formal process should improve the chance of appointing a suitable individual. A description of the process for selection, appointment and re-appointment of directors should be included in the company's annual report.

The formal appointment of new directors, and the re-appointment of directors, is a matter for the shareholders to decide at the annual general meeting. Although it is possible for shareholders to propose their own nominee for appointment to the Board, it is more usual for the shareholders to accept recommended nominations from the Board. This means that, in practice, appointments or re-appointments of directors are usually decided by the Board (or at least very strongly influenced by the Board).

1.1 Requirement for a Nominating Committee

The Code of Corporate Governance gives the Nominating Committee (NC) a leading role in board appointments. The function of the NC is to make recommendations to the Board on all board appointments (guideline 4.1). The NC recommends the nominations that the Board should make to the shareholders at the annual general meeting.

(Note: The Code refers to a Nominating Committee, but companies may call it their Nomination Committee.)

1.2 Composition of the NC

The Code (guideline 4.1) states that the NC should consist of at least three directors.

- The majority of the committee members, including the NC Chairman, should be independent.
- If the company has a lead independent director, he or she should be a member of the NC.

(Note: An executive director may be a member of the NC. This may be desirable, since the NC makes recommendations for appointments of executive directors as well as non-executive directors. If the NC does not include an executive director, it would be good practice to consult with a senior executive (such as the CEO) before recommending nominations for executive director appointments to the Board.)

1.3 Role of the NC

The Code states that the NC should have written terms of reference, and its function (guideline 4.2) is to make recommendations to the Board on matters relating to:

- The review of board succession plans for directors, and in particular succession plans for the Chairman and the CEO
• Developing a process for evaluation of the performance of the Board, the board committees and individual directors
• Review of training and professional development programmes for members of the Board
• The appointment and re-appointment of directors (including alternate directors, where applicable)

The NC should also decide each year (and also when circumstances require) if a director is independent and report its views to the Board (guideline 4.3).
• The NC should base its decision on the guidelines in the 2012 Code of Corporate Governance.
• Any reason for making a decision that does not comply with the Code guidelines on independence should be explained by the NC to the Board, for the Board's consideration.

1.4 Selection, appointment and re-appointment of directors

The Code provides some guidance on the process of selection and appointment or re-appointment of directors.

All current directors should submit themselves for re-nomination and re-appointment at regular intervals, at least once every three years. In this respect, the Code is consistent with the articles of association of many companies, which provide for re-election of directors every three years.

Three important issues should be considered as part of the selection process:

(a) Composition of the Board: the composition of the Board should comply with the requirements of the Code with regard to:
   • The number of independent directors
   • The collective knowledge, skills, experience of the Board members, and the need for suitable diversity (including gender)

(b) Progressive renewal of the Board

(c) The individual's competencies, and (in the case of current directors seeking re-appointment) commitment, contribution and performance.
   • This assessment may take into consideration, for example, the individual's attendance at Board and committee meetings; preparedness for meetings; participation in meetings; and candour.
   • For independent directors, the assessment of an individual for re-appointment should take into consideration the extent to which he or she has demonstrated independence.

The NC should also consider, in the case of directors who have multiple Board representations and are seeking re-appointment, the time commitment of the individual and whether the individual is able to and has been adequately carrying out their duties as a director of the company, taking into consideration the director's number of listed company Board representations and other principal commitments. Guidelines should be adopted that address the competing time commitments that are faced when directors serve on multiple boards. The Board should determine the maximum number of listed company Board representations which any director may hold, and disclose this in the company's Annual Report.

1.5 Providing information about directors and other nominees to shareholders

Although the Board nominates individuals for appointment or re-appointment as directors, the shareholders make the actual decision to appoint or re-appoint at the annual general meeting. To enable shareholders to make informed decisions, the Code (guideline 4.7) requires certain disclosures about directors in the annual report:

• Academic and professional qualifications
• Shareholding in the company and its related corporations (holding company, fellow subsidiary or subsidiary company)
• Board committee memberships (and whether Chairman or other member)
• Date of first appointment as director
• Date of most recent re-appointment
• Details of directorships or chairmanships in other listed companies, both present and those held over the preceding three years
• Other principal commitments

For all individuals proposed for appointment or re-appointment to the Board, shareholders should be provided with information about:

• Their relationships between the candidate (including immediate family memberships) and the directors, the company and its 10% shareholders
• A list of all current directorships in other listed companies
• Details of other principal commitments

The Code ( guideline 4.6) requires disclosure in the company's annual report of the process for the selection, appointment and re-appointment of directors to the Board. This should include disclosure on the search and nomination process.

SECTION SUMMARY

This section has explained the requirement for a NC and has outlined the various roles of the NC. Some of these roles, relating to performance assessment and succession planning, are explained in more detail in the following sections.

2 Board performance: succession planning

SECTION INTRODUCTION

This section considers the annual assessment of the performance of the Board, its committees and individual directors. It is used to monitor the effectiveness of the Board and its committees in adding value for the shareholders. It is also used as a review of the performance of individual directors (as directors, not as executives in the case of executive directors) and is used to make decisions about new appointments and replacement of existing Board members.

This section also considers succession planning, another area in which the NC is involved.
2.1 The requirement for an annual performance assessment

A principle of good corporate governance is monitoring and review. This includes review of the performance of the Board. The Code of Corporate Governance (principle 5) requires that there should be a **formal annual assessment of the effectiveness** of:

- The Board as a whole
- Each committee of the Board (including the NC)
- The contribution by each director, including the Chairman, to the effectiveness of the Board

The Board should state in the Annual Report how the performance assessment has been conducted (guideline 5.1).

The Board should initiate the annual review process, and the process should be carried out by the NC. However, an 'external facilitator' – a specialist in performance reviews from outside the company – may be used (guideline 5.1).

The NC should:

- Decide how the Board's performance should be evaluated, and
- Propose objective performance criteria for assessing performance. These should:
  - Allow for comparison with other, similar companies in the industry ('industry peers'), and
  - Address the issue of how the Board has increased **long-term value for shareholders**.

In general terms, the purpose of an annual Board evaluation should be to review and assess:

- How the Board members (directors) work with each other
- How the Board works with the company's management
- How successful the company has been in co-ordinating its efforts to improve the company's performance. The board's achievements should not be assessed simply in terms of annual profits or share price growth, but also in other ways, such as how well it has responded in the past year to any crisis that has arisen.

The performance review will therefore consider issues such as:

- The culture of the company, and the Board's influence on this (the 'tone at the top')
- Composition of the board membership
- The effectiveness and efficiency of the Board's procedures and processes (including frequency of meetings perhaps)
- Information flows
- Leadership of the Board (the effectiveness of the Chairman)
- The interface between the Board and management of the company
- The interface between the Board and shareholders of the company, including communications with shareholders

There are no set rules about how the performance review should be conducted. Typically, the performance review will involve directors being asked to respond to questions in a standard questionnaire (that is kept more or less unchanged from one year to the next, to retain consistency in evaluation); alternatively there may be meetings and interviews to discuss performance.

### 2.1.1 Board performance

The Board should approve the performance criteria proposed by the NC (guideline 5.2). However the criteria should not be changed from year to year, but should be applied consistently from one year to the next. Where circumstances make it necessary to change any of the criteria, the Board should be able to justify this decision.
2.1.2 Performance of individual directors

In the case of individual directors, the performance evaluation considers his or her performance as a director. For executive directors, it is not concerned with performance as a manager and has nothing to do with any annual assessment of performance for the purpose of remuneration and bonus calculations.

The Code (guideline 5.3) specifies that:

(a) The aim of individual evaluation should be to assess whether each director continues to contribute effectively and also demonstrate a commitment to the role. This assessment should consider, amongst other things, the commitment of time by the individual to board meetings, committee meetings and other duties.

(b) The Board Chairman should act on the results of the performance review and in consultation with the NC and where appropriate, propose new members to be appointed to the Board or seek the resignation of directors.

The Code does not call for disclosure by the Board in the annual report how the results of the performance assessment have been used.

2.2 Good practice for a performance assessment

The Code does not provide further guidelines on the conduct of the annual performance review, but the following may be considered ‘good practice’.

- Individuals should not be involved in carrying out their own performance assessment. Using external consultants should remove the problem of who reviews the performance of each individual.
- The formal list of criteria for assessment may provide a basis for self-assessment by the Board as a whole and by individual committees.
- The Board Chairman is expected to act on the results of the performance assessment; therefore it may be appropriate to involve the Chairman in some way in the assessment process.

The Singapore Institute of Directors’ Statement of Good Practice on Board evaluations also suggests that at the end of the performance review, the Board in conjunction with the NC Chairman should take appropriate steps to counsel (or even replace) non-performing directors.

2.3 Succession planning

The Code of Corporate Governance (guideline 4.2) states that the NC should make recommendations to the Board relating to succession plans for directors, especially the Chairman and the CEO. This is a broad recommendation, and could mean that:

- The NC may recommend that the Board should formulate a succession plan when it does not currently have one, or;
- The Board should review its current succession plan with a view to changing or updating it, and;
- The NC should make recommendations to the Board for nomination of individuals to succeed current members of the Board.

Succession planning is not making decisions for immediate changes on the Board: it is planning for the future.

The purpose of succession planning is to make arrangements in advance for the eventual replacement of Board members, before the vacancy on the Board actually arises. By planning in advance, and knowing who the successors will be, the risk is considerably reduced of having a vacancy on the Board with no one to fill it.
2.3.1 Succession planning for Chairman and CEO

The positions of Chairman and CEO are important, and it is undesirable to have vacancies in these positions for more than a short time. Ideally, the successor should be in place for immediate appointment. The individuals holding these positions will retire or resign at some time, because the individual has reached retirement age, or for reasons of ill-health, or because the company's performance has been disappointing and there is a perceived need for change at the top of the company.

The Board of Directors should try to ensure a smooth succession, with a replacement lined up to take the place of the departing individual.

- In the case of a CEO, the plan may be to replace the current CEO with an existing executive manager in the company, who can be groomed for the senior role. Or the plan may be for an external appointment, but this may indicate to investors that the company does not have senior managers with the ability or talent to become the CEO.

- In the case of a departing Chairman, the successor may be an external appointment or possibly the current lead independent director.

- When the company is family-controlled, the current Chairman and CEO may both be family members. Succession planning would possibly involve identifying another member of the family to groom for eventual succession.

A smooth succession should avoid disruptions to the company's decision-making processes or result in changes in direction of policy or strategy. The succession can also be planned well in advance, so that the newly appointed individuals will have an opportunity to learn about their new role before the actual succession occurs.

2.3.2 Succession planning for other board members

The Code of Corporate Governance recommends that the NC should make recommendations relating to succession planning for all directors, although planning for succession for the chairmanship and position of CEO are the most important (guideline 4.2 (a)).

More emphasis is given to succession planning in other countries than in Singapore. The UK Code of Corporate Governance states that: 'The Board should satisfy itself that plans are in place for orderly succession for appointment to the Board and to senior management, so as to maintain an appropriate balance of skills and experience within the company and on the Board, and to ensure progressive refreshing of the Board.'

This means that there should also be succession planning for NEDs and executive directors. The Articles of Association of many companies call for re-election of directors at least every three years. NEDs are typically appointed for a period of three years and the appointment may be renewed at the end of each three-year period.

- Over time, an NED may lose some of his independence.

- It was explained in the previous chapter that an NED is generally considered 'not independent' when he or she has been on the Board for nine years or more.

- This suggests that when a NED has been on the Board for more than six years, succession planning should prepare for the possibility (or probability) that the director's appointment will not be renewed after the nine-year period (and current three-year period) has ended.

The NC may recommend the re-appointment of a NED at the end of the first three-year term, but may possibly consider recommending the appointment of a replacement NED when the second three-year term ends.
2.4 Progressive refreshing of the Board

The Code of Corporate Governance does not say much about progressive refreshing of the Board, although it expresses the view that the NC should give consideration to this matter when making nominations for appointments or re-appointments to the Board (guideline 4.2).

‘Progressive’ refreshing means a continuous process of change in Board membership, particularly among the non-executive directors.

‘Progressive’ means that the process of change is continual and by a small amount each time. For example if a Board has eight independent directors, progressive change might mean changing one or possibly two of them each year.

‘Refreshing’ means bringing in directors with new ideas and new skills and experience. Over time, there may be changes in the required diversity of skills and experience that a company should have on its Board. New appointments enable a company to bring in individuals with skills that the current Board members do not have.

A Board should also plan for the eventual replacement of NEDs with key skills. For example, some members of the Audit Committee (AC) should have relevant accounting or financial management experience. Succession planning for an AC member should therefore involve a search for an appropriate individual with suitable accounting or financial management skills.

The NC should also be aware of the requirements for a balanced board with sufficient diversity. The Code of Corporate Governance states that the Board and its committees should consist of directors ‘who as a group provide an appropriate balance and diversity of skills, experience, gender and knowledge of the company. They should also provide core competencies such as accounting or finance, business or management experience, industry knowledge, strategic planning experience and customer-based experience or knowledge’ (guideline 2.6).

The NC may therefore be required to take measures to review the composition of the Board and plan for Board succession for positions other than Chairman and CEO. The NC should:

- Identify which directors are intending to resign when their current three-year term expires
- Identify which directors will retire by rotation and stand for re-appointment at the next Annual General Meeting (AGM)
- In consultation with the Chairman, consider the performance of current directors. This information should be available from the performance review of the directors
- Consider the current balance of the Board and the balance of the Board after planned departures have occurred; and compare this with the spread of skills and experience required
- Consider the diversity of membership
- Reach decisions about future succession to board membership, and prepare a description of the role and responsibilities for the anticipated vacancy
- Make recommendations to the Board about a succession plan

If the board approves the recommendations of the nomination committee, the committee will be authorised to search for an individual to fill the anticipated vacancy.

**IMPORTANT**

Although progressive refreshing of the Board is considered best practice, identifying and securing suitable directors with the required experience, skill and industry knowledge is not always easy. This is particularly so in Singapore (where the population base is small) and for specialist industries.
2.5 Filling unexpected vacancies on the Board

If an unexpected vacancy occurs on the Board, and there is no succession plan in place for the vacant position, the NC should be authorised by the Board to initiate a succession for a new director.

- The initial process should be the same as in succession planning for NEDs. A description of the responsibilities and role should be prepared, together with a specification of the skills or experience that the individual should have.

- This job description and person specification should be used as a basis for identifying and interviewing candidates. The NC may appoint a firm of recruitment specialists (a firm of ‘head hunters’) to assist with the search.

- The NC will identify the preferred individual, who should be asked to agree to accept the appointment subject to approval of the nomination by the Board.

- The NC should recommend the nomination to the Board, and obtain the Board's approval.

- The individual should then be appointed by the Board, and will be formally approved by the shareholders at the next annual general meeting.

- In some cases, approval from a regulator may be required before a Board appointment is made. For example approval from MAS is required for Board appointments in financial institutions and insurance companies.

**Question 10.1**

What criteria would you include for the annual assessment of the performance of the whole Board?

**SECTION SUMMARY**

The specific responsibilities of the NC vary between companies, but the NC plays a significant role in the annual performance review of the Board and in succession planning and appointments to the Board.
3 Directors' remuneration and the Remuneration Committee

SECTION INTRODUCTION

The remuneration of directors, especially executive directors, and other senior executives can be an emotive issue, and it may be argued that senior executives are paid far too much. Stakeholders, especially investors and employees, are interested in knowing what directors and senior executives are paid.

Remuneration is also a governance issue, because the success of a company depends on the abilities of its directors and senior executives. Remuneration can provide incentives to directors and senior executives to work towards the long-term success of the company. Much depends on how remuneration packages are structured.

This section considers the various issues relating to remuneration, and the role of the board's Remuneration Committee.

3.1 Why is remuneration a governance problem?

The remuneration of executive directors can attract a considerable amount of attention and can be an issue of great concern. There are reasons for this.

(a) In many large companies, executive directors may be rewarded excessively. Excessive remuneration reduces profits and so has an impact on shareholder value. However, generous remuneration packages may be needed to attract and retain top business executives.

(b) There is a potential for conflict of interest. Directors, especially executive directors, may seek to maximise their own personal remuneration, but this may be against the long-term interests of the company. Typically, a remuneration package may reward an executive director with a large annual bonus for achieving or exceeding a target for profit or return. The director may therefore focus on maximising the current year's profit in order to maximise his/her bonus; but short-term profit maximisation may be inconsistent with long-term profits growth.

(c) It is generally recognised that the remuneration package of senior executives should include a significant performance-related element, so that the individual will be motivated to improve performance. However, it is difficult to identify the aspects of performance that should be rewarded. As an example, if directors are rewarded for increasing profits, they will seek to increase the company's profits. However, profit growth may be achieved only by exposing the company to greater risks, or by conducting business operations in a way that causes serious damage to the environment. If targets for risk management or targets for environmental protection are not included in performance-related aspects of remuneration, directors will be inclined to disregard risk or disregard environmental concerns.

The challenge is therefore to design a remuneration policy and structure individual remuneration packages that:

(a) Reward directors and senior executives sufficiently to attract and retain them, but do not reward them excessively

(b) Provide incentives for achieving performance targets that are in the best long-term interests of the company

Remuneration can be an emotive issue.

- **Shareholders** (who are not significant shareholders in the company) may believe that directors are rewarded excessively, especially when the company is not performing well, because of the way that remuneration packages are structured. They may feel that directors are rewarded when the company performs well, but do not suffer much loss of income when the company performs badly.
Employees may resent high remuneration for senior executives when they are paid much less in comparison. This can be a particular problem when senior executive pay is rising at a much faster rate than the pay of other employees.

3.1.1 Remuneration of non-executive directors
The main concern with remuneration of directors, from a corporate governance perspective, is with remuneration for executive directors. Non-executive directors should be much less of a problem, because they are paid a fixed fee, without bonuses or other incentive schemes. The remuneration of NEDs is explained in more detail later.

The fees paid to NEDs should be much lower than the remuneration paid to executive directors. Consequently, whereas executive directors may have a significant conflict of interest if they were permitted to decide their own remuneration (or the remuneration of fellow executives), NEDs should not have the same problem. This is the main reason why remuneration committees (explained below) should consist entirely of NEDs.

3.1.2 Shareholdings by directors
Although there are no regulatory requirements, directors should be encouraged to hold shares in their company. By holding shares (and so being a shareholder in the company) directors are more likely to think and act in the interests of the company and its shareholders. The encouragement for directors to hold shares applies to non-executive directors as well as to executive directors.

3.2 Code of Corporate Governance and remuneration
The Code of Corporate Governance states in principle 7 that there should be a formal and transparent procedure for:

- Developing policy on executive remuneration, and
- Fixing the remuneration packages for individual directors.

No director should be involved in deciding his or her own remuneration.

3.3 Requirement for a Remuneration Committee (RC) and role of the RC
The Code of Corporate Governance (guideline 7.1) states that a Board should establish a Remuneration Committee (RC) with written terms of reference.

- The RC should consist of at least three directors and the majority of them, including the RC Chairman, should be independent.
- All the members of the RC should be non-executive directors.

The reason why all the members of the RC should be non-executive is to minimise the risk of any potential conflict of interest. If executive directors were to be a member of the RC:

- They would become involved in setting their own remuneration, and
- In addition, their views on the remuneration of other executives could influence thinking by the other RC members about their own remuneration package.

The functions of the RC are as follows (guideline 7.2).

(a) To review and recommend to the Board a general framework of remuneration for the Board members and for ‘key management personnel’. This general framework may be referred to as the Board’s ‘remuneration policy’. Key management personnel are the CEO and any other managers with responsibility at a senior level for planning, directing and controlling the company’s activities.
(b) To **review and recommend to the Board the specific remuneration packages** for each director and for key management personnel. The main concern with remuneration is with remuneration for executive directors and other senior executives, but the Code of Corporate Governance refers to remuneration for ‘each director’, without distinguishing between executive and non-executive directors.

The RC makes recommendations to the Board, which are submitted for endorsement by the entire Board.

‘Remuneration’ covers all aspects of remuneration:

- Director’s fees (non-executive directors)
- Salary
- Allowances
- Bonuses
- Share options
- Share-based incentives and awards (share grants)
- Benefits in kind

The Singapore Institute of Directors' Statement of Good Practice (Number 9) on Guiding the Remuneration Committee suggests that the RC needs to:

- Identify the key strategic, financial and operational objectives that might be used as a basis for incentivising executive directors and other senior executives
- Develop compensation/remuneration practices, using base salary, short-term and long-term incentives and other benefits to meet the objectives of:
- Attracting and retaining talented executives
- Alignment of the interests of the directors with those of the shareholders
- Maintaining an equitable pay structure within the company
- Achieving a suitable balance between fixed pay (mainly salary) and variable pay (short- and long-term incentives)
- Meeting the company's key objectives through a balance between annual performance and long-term sustainability
- Reinforcing the company's culture
- Avoiding criticism from shareholders and the media.

### 3.4 Remuneration policy

The RC should review remuneration policy and recommend any changes to the Board for approval. Remuneration policy is the general framework within which individual remuneration packages are negotiated and decided.

Some of the following items may be included in a remuneration policy.

- There should be a suitable balance between fixed payments, short-term incentives and long-term incentives. The policy may be, for example, that the incentives element in remuneration packages should be at least 50% of total remuneration.
- There may be a general policy that where annual bonuses are paid, the performance targets should be relevant, stretching and designed to promote the long-term success of the company.
- There may be a policy condition that incentives should recognise the management of risk as well as achieving targets for profit.
- Where annual bonuses are available, there may be a cap or maximum limit on the amount of bonus that any individual can earn each year.
• Policy may provide for the payment of annual bonuses in the form of shares in the company rather than cash, and the shares may be granted over a period of years.

• There may be a requirement that remuneration packages should include a ‘claw-back’ provision, whereby the director or executive should pay back part of a bonus earned in one year if it is subsequently discovered that performance was actually worse than originally thought. The Code of Corporate Governance suggests that: ‘companies are encouraged to consider the use of contractual provisions to allow the company to reclaim incentive components of remuneration from executive directors and key management personnel in exceptional circumstances of misstatement of financial results, or of misconduct resulting in financial loss to the company.’

• There may be limits on the award of benefits in kind.

• With long-term incentives, there may be a policy that share options awarded to directors or executives should not be exercisable for at least a minimum period of time (typically three years) after they have been issued. Similarly with a share grant scheme, the granting of shares should not occur until a minimum period of time after the director or executive becomes eligible to receive them.

• With a long-term incentive scheme, there may be a policy that options or shares should be granted in smaller amounts over a period of years rather than in one large block in a single year.

• Any new long-term incentive scheme should be approved by shareholders.

• When the company makes payments into pension funds for executive directors and senior executives, the amount of the payment should be related to fixed salary rather than total remuneration.

There are no rules about what remuneration policy should be. Policy is approved by the Board and varies between companies. This can make comparisons between companies very difficult.

Remuneration packages for executive directors should be negotiated and decided within the framework of the agreed remuneration policy. Remuneration packages are contractual agreements, and once they have been decided, the company cannot change the terms and conditions as long as the contractual agreement remains in place.

3.5 Level and mix of remuneration

A remuneration package consists of three elements:

• A fixed element, which is a fixed amount of reward that the individual receives, regardless of the company’s or individual’s performance.

• A variable element which rewards the individual with short-term incentives for performance in the year.

• A variable element which rewards the individual over a longer period of time and where the value of the reward is linked to the company’s performance over the long term, such as the rise in share price over several years.

Remuneration is therefore a combination of a fixed element and a variable element and the variable element consists of short-term and long-term incentives. For an executive director or senior executive:

• The fixed element includes basic salary and benefits in kind, and pension contributions by the company where these are linked to basic salary.

• The short-term variable element includes annual bonuses for achieving performance targets.

• The long-term variable element includes the award of share options or granting of shares.

The Code of Corporate Governance (principle 8) requires that the level and structure of remuneration should be aligned with the long-term interest and risk policies of the company, and should be appropriate to attract, retain and motivate (a) the directors to provide good stewardship of the company, and (b) key
management personnel to successfully manage the company. This is to avoid remuneration packages that encourage directors to chase maximum profits even if this exposes the company to excessive risks.

The Code states as a principle that:

(a) The level and structure of remuneration should be aligned with the long-term interests and risk policies of the company.

(b) The level and structure of remuneration should be sufficient to attract, retain and motivate:
   - Directors to provide good stewardship of the company, and
   - Key management personnel to manage the company successfully.

(c) The company should, however, avoid paying more than is necessary.

The Code also provides guidelines (guideline 8.1) for the structuring of remuneration packages for executive directors and key management personnel.

(a) A ‘significant proportion’ of the remuneration package should link rewards to corporate and personal performance.

(b) Performance-related remuneration should be aligned with the interests of the shareholders and promote the long-term success of the company.

(c) Performance-related remuneration should also take account of the risk policies of the company, and should depend on risk outcomes. It should also ‘be sensitive to the time horizon of risks’.

(d) There should be measures for assessing performance for each individual. These measures should be ‘appropriate and meaningful’.

The Code also provides guidance (guideline 8.2) on long-term incentives for executive directors and key management personnel.

(a) In general, long-term incentive schemes are encouraged.

(b) The RC should evaluate the costs and benefits of long-term incentive schemes.

(c) In normal circumstances, the grant of shares or share options should vest over a period of time, so that the individual has to wait a number of years before receiving the shares or being able to exercise the share options.

(d) The Code encourages the use of ‘vesting schedules’, whereby only a portion of the benefits can be exercised each year.

(e) Executive directors and senior executives should be encouraged to hold their shares beyond the vesting period. By holding shares in the company they are more likely to have a continuing interest in the long-term performance and success of the company.

### 3.6 Remuneration for non-executive directors

Remuneration policy as a governance issue is concerned mainly with the remuneration of executive directors and key management personnel, but the Code of Corporate Governance includes guidelines on remuneration for non-executive directors.

Remuneration for NEDs is often a fixed annual fee, payable in cash, but there may be arrangements for remunerating NEDs partly with shares in the company.

The Code (guideline 8.3) provides the following guidelines.

(a) The remuneration of NEDs should be appropriate to the level of their contribution, taking into account factors such as effort and time commitments, and their responsibilities as directors. For example the Chairman of the Audit Committee and a lead independent director should expect to receive a higher remuneration than the other NEDs.

(b) NEDs should not be over-compensated so that their independence is compromised.
(c) The RC should consider schemes to encourage NEDs to hold shares in the company, as this will help to improve the alignment of interest of the NEDs with those of the company's shareholders.

### 3.7 Using external remuneration consultants

Remuneration packages for executive directors can be complex. There may be bonus payments for achieving a number of different annual performance targets, and also long-term incentives such as share grants or share options for achieving a different set of targets. The Remuneration Committee may use the services of external remuneration consultants (guideline 7.3). The consultants can provide advice about remuneration packages for senior executives and suggest how packages may be structured.

- Remuneration packages for senior executives must be comparable with packages for executives in other, similar companies. If one company pays executives much less than its competitors, or other listed companies generally, the executives may decide to move to a company that offers better rewards.
- Directors on the Remuneration Committee are unlikely to have expertise in remuneration issues, and they may not have time to investigate for themselves the size and structure of remuneration packages for executive directors and other senior executives in other companies.
- External remuneration consultants should be well informed about remuneration packages in other companies and how these are structured.
- The RC members may want to protect themselves against accusations from shareholders and other investors that they have agreed remuneration packages with executive directors and other senior executives that are too generous. By using external consultants, they can argue that they have followed advice and approved recommendations from experts.

The RC should be prepared to listen to the views of others, inside the company as well as outside. For example, the CEO may have useful views on the nature of performance targets or the general level of remuneration needed to attract and retain top executives.

The Code of Corporate Governance states: ‘If necessary, the RC should seek expert advice inside and/or outside the company on remuneration of all directors’ (guideline 7.3).

When the RC uses remuneration consultants, there may be some concern about the independence and objectivity of the consultants. There could be a risk that the consultants will not be objective and will recommend over-generous remuneration packages. The Code therefore states that when the RC does use external remuneration consultants, their names (and the name of their firm) should be disclosed in the annual report, together with a statement on whether the consultants have any relationship with the company that may affect their independence and objectivity (guideline 7.3).

### 3.8 Payments on termination of service

Executive directors and senior executives may negotiate a term in their contract of service with the company that they will receive a payment on termination of their contract, when they retire or when they resign.

Payments on termination of service can be very high, and when a director leaves a company because he/she is under pressure to resign because of poor performance, the termination payment can be seen as paying a ‘reward for failure’. These payments do not obviously create value for the company.

Some payment on termination of office may be appropriate, but excessive payments are not. The Code of Corporate Governance states that the RC should review the company's obligations in the event of termination of office for executive directors or senior executives ‘to ensure that such contracts of service contain fair and reasonable termination clauses which are not overly generous. The RC should aim to be fair and avoid rewarding poor performance’ (guideline 7.4).
3.8.1 Payments to director for loss of office, et cetera

There are some provisions about remuneration for directors in the Companies Act. Section 168 of the Act states that it is illegal for a company to make any payment to any director:

- As compensation for loss of office as a result of the director's retirement from that office, or
- In connection with the transfer of the whole or any part of the business or property of the company:
  - Unless particulars of the proposed payment, including the amount, have been disclosed to the shareholders and the payment has been approved by them in general meeting.

However shareholder approval for a payment to a director as compensation for loss of office is not required if the amount of the payment does not exceed the director's total emoluments in the previous year (and shareholders are made aware of the payment before it is made).

When any payment of compensation for loss of office has been unlawfully made, the amount received by the director is deemed to have been received by him/her in trust for the company, and so is repayable to the company.

If a director who is retiring is paid a price for his shares by the company that is in excess of the market price for the shares, the excess payment should be regarded as compensation for loss of office.

Where a payment is to be made to a director in connection with the sale of shares in the company to any person, as a result of an offer made to the shareholders, the director should take all reasonable steps to provide details of the proposed payment with any notice of the offer for their shares that is sent to the shareholders.

This rule about payments to directors for loss of office or on retirement does not apply to:

- Any payment under an agreement whose details have been disclosed to and approved by special resolution of the company.
- Any bona fide payment by way of damages for breach of contract.
- Any bona fide payment by way of pension or lump sum payment in respect of past services, including any superannuation or retirement allowance, where the value or amount of the pension or payment does not exceed the total emoluments of the director in the three years immediately preceding his/her retirement.
- Any payment to a director in accordance with the terms of an agreement made between the company and the individual before he/she became a director of the company, as the consideration for the director agreeing to serve the company as a director.

However, a company may insert a 'clawback' clause in the employment contract of an executive director, which provides for the repayment of bonuses made to the director, even after several years, when it is subsequently found that the bonuses were wrongly paid (for example, because the bonus was based on reported profits that are subsequently found to have been over-stated).

Question 10.2

The majority of shares (55%) in a listed company are held by the company's founder and immediate family. The founder is currently the Board Chairman. The company is considering whether to introduce a new share option scheme, whereby share options are granted to executive directors and a number of other senior executives.

Explain the factors that might affect the success of this scheme in providing incentives for the executives who are awarded options.
3.9 Disclosures on remuneration

The *Companies Act* does not include any statutory provisions for the disclosure in detail of the remuneration of individual directors. In contrast, the UK (whose Companies Act provided the benchmark for the Companies Act in Singapore) has statutory requirements for detailed disclosures on remuneration and for shareholder voting on remuneration policy (but not individual remuneration packages).

The Code of Corporate Governance, however, includes requirements for disclosure of details about remuneration.

(a) The Code of Corporate Governance (principle 9) requires that every company should provide clear disclosure of its remuneration policies, level and mix of remuneration, and the procedure for setting remuneration, in the company’s Annual Report, so that investors are able to understand the link between remuneration paid to directors and key management personnel, and performance.

(b) The Code also includes guidelines that require extensive disclosure of remuneration details. These should be contained in a remuneration report, which should form part of or be annexed to the company’s annual report.

The detailed disclosures in the remuneration report should be as follows:

- The report should contain details of the remuneration of the directors, the CEO and the top five key management personnel who are not also directors of the company.
- It should state the total amount of any termination, retirement and post-employment benefits that may become payable to the directors, CEO and top five key management personnel.
- It should disclose the remuneration of each individual director and the CEO, on a named basis. The remuneration should be analysed into fixed salary, performance-related bonuses, benefits in kind, share options granted, share awards and other long-term incentives.
- It should also disclose in total the remuneration paid to the top five key personnel. (As best practice the remuneration for each of these five individuals should be disclosed.)
- The report should disclose details of remuneration of employees who are immediate family members of a director or the CEO, whose remuneration for the year exceeds S$50,000. This should be done on a named basis, showing the relationship between the employee(s) and the relevant director or CEO. (Disclosures should be in bands of S$50,000.)
- There should be disclosure of the details of employee share option schemes, so that shareholders can assess the potential cost to the company.

**Emerging trends and current issues**

The Corporate Governance Council’s consultation paper (January 2018) about revising the Code of Corporate Governance includes a discussion of remuneration practices.

The Council deliberated where Singapore should introduce laws to provide shareholders with a vote – either advisory, or binding – on the remuneration of directors and key executives; a so-called ‘say-on-pay’ vote.

However, the Council decided that the primary responsibility to ensure that remuneration policies are equitable, and incentivise the right behaviour, rests with the board, Therefore the Council does not recommend the introduction of a ‘say-on-pay’ regime. Instead, the Council recommends that companies provide more meaningful disclosures about the relationship between remuneration and value creation (for example, in terms of the alignment between remuneration and the companies’ long-term objectives, business strategy, and performance.)
SECTION SUMMARY

Remuneration of directors and senior executives can be a controversial issue. One problem is that remuneration may be excessive: although there are some provisions in the Companies Act on remuneration, most guidelines for listed companies are contained in the Code of Corporate Governance. The Code includes principles and guidelines on remuneration policy, the role of the RC, the level and mix of remuneration and disclosures about remuneration.

Remuneration has an ethical aspect. Employees may resent high levels of pay for senior executives, especially when senior executive remuneration is rising faster than pay for other employees. The ethical argument is that senior executives are taking a bigger share of the company's income than they deserve.

For minority shareholders, this argument is reinforced when the company employs individuals who are close family members of the majority shareholder or a director, and are paid a large salary by the company.

There is also a competitive issue with remuneration. High levels of remuneration are justified by the argument that other companies pay their senior executives generously. Unless companies compete on remuneration, they will fail to attract or retain the best executives.

When dealing with an examination question on remuneration, try to present an objective view, and consider all the issues: legal, regulatory, ethical and competitive remuneration.

4 Accountability, audit and the Audit Committee

SECTION INTRODUCTION

The Board of Directors should be accountable to the shareholders for their stewardship of the company. They are made accountable mainly through the annual report and accounts and the annual general meeting.

The published financial statements are a presentation by the directors to the shareholders of the company's financial performance and financial position. Shareholders need assurance that the information in the financial statements is reliable, and not incorrect or misleading. The report of the auditors provides an independent professional opinion about whether the financial statements do give a true and fair view. It is therefore important for shareholders to believe that the auditors are both independent and professional in the opinion that they give in their report.

There are governance mechanisms for monitoring the independence of the auditors and the conduct of the external audit, which involve the Audit Committee (AC) of the Board.

4.1 Accountability

Management should be accountable to the Board of Directors for their use of the company's resources and the company's performance. The Board of Directors in turn is accountable to the shareholders. The Code
of Corporate Governance (principle 10) states that: ‘The Board should present a balanced and understandable assessment of the company's performance, position and prospects.’ This requirement covers not only the annual report and financial statements, but also interim and other ‘price sensitive’ public reports, and reports to regulators, where required.

Shareholders rely on information in the annual report and financial statements, and other statements by the company, to make their investment decisions. It is extremely important that the information they are given should be relevant and a faithful representation.

4.1.1 Why might financial information be unreliable?

You should be well aware of reasons why published financial statements could be misleading.

- There may be significant errors or omissions in the recording of financial data.
- There may be fraud or deliberate misrepresentation.
- The assumptions and estimates on which the accounting figures have been based may be unrealistic.

The purpose of the external audit is to provide shareholders with an independent professional opinion as to whether the financial statements give a true and fair view. To provide such an opinion, the auditors must be:

- Independent, and
- Seen to be independent.

4.2 Threats to auditor independence

The audit profession recognises that there are potential threats to the independence, and objectivity of external auditors; hence codes of ethical conduct are designed to reduce the risks from these threats. The accountancy profession itself has the main responsibility for ensuring, as far as possible, that auditors remain independent and objective.

Threats to auditor independence can be grouped into five types:

- Self-interest threat
- Familiarity threat
- Self-review threat
- Intimidation threat
- Advocacy threat

From a corporate governance perspective, the most significant of these are the self-interest threat and familiarity threat.

These threats will also be examined in Chapter 13 in the context of the ISCA Code of Professional Ethics as it applies to accountants in business and internal control environments.

4.2.1 Self-interest threat

This is the threat that an auditor or audit firm is earning such a large amount of fee income from a company, for both audit work and non-audit work, that its judgement will be affected by the aim of retaining the company as a client. Instead of being strictly objective in reaching their opinions, auditors may be prepared to accept the views and arguments of the company's management.

Instead of challenging the company's management (for example assumptions or estimates in the financial statements) the auditor may choose to 'keep quiet' and hope to retain the company as an audit client next year, and also to win more non-audit work.

The threat to auditor independence would be even stronger if the individuals whose work is audited are also the individuals who make the recommendations or decisions about the appointment or re-appointment of the auditors each year.
4.2.2 Familiarity threat

This is the threat that over time, the auditors will become too familiar with senior executives in the client company, in particular the CEO, CFO and other senior managers in the accounts department. Through a long-term working relationship, the auditor may feel that he or she understands the company’s management better, and can trust them.

Instead of investigating matters objectively and asking relevant questions, the auditor may accept the word of the managers they trust; when this happens, objectivity is lost.

4.3 Financial controls

Financial controls are internal controls that are designed to reduce the risks of errors and fraud in accounting and financial activities and in financial reporting. Controls may be designed to prevent errors from happening, or to detect errors if they occur.

Internal controls, including financial controls, are covered in more detail in a later chapter. It is sufficient for the purpose of this chapter to be aware that:

- The Board of Directors is responsible for presenting financial statements to shareholders that give a true and fair view.
- The Board of Directors therefore has responsibility for ensuring the independence of the auditors, the satisfactory conduct of the external audit and the effectiveness of financial controls.
- The financial statements may not give a true and fair view if there are significant errors due to failure in financial controls, and the errors are not detected.
- Management has the responsibility for designing and implementing suitable financial controls.
- The Board of Directors has the responsibility for monitoring the control system, to ensure that it is effective.
- As a principle of good governance, it is inappropriate for directors to be in a position where they are able to act as a monitor of their own performance.

For these reasons, listed companies are required to have an Audit Committee (AC).

4.4 Audit Committee

There is a requirement for listed companies to have an Audit Committee (AC) in both the Companies Act and the Code of Corporate Governance (principle 12).

4.4.1 Composition of the AC

The Companies Act (section 201B) requires every listed company to have an Audit Committee, which should consist of three or more members, all of them directors. In addition, the Act requires that the AC should not consist of a majority of individuals who are:

- Executive directors of the company or any related company or
- A spouse, parent, brother, sister, son or adopted son or daughter or adopted daughter of an executive director of the company or of any related company, or
- Any person having a relationship which, in the opinion of the Board of Directors, would interfere with the exercise of independent judgment in carrying out the functions of an Audit Committee.

The members of the committee should elect their Chairman, who must not be an executive director or an employee of the company or any related company.
The Code of Corporate Governance is more strict than the Companies Act about the composition of the AC. The Code (guideline 12.1) specifies that the AC should consist of at least three directors, and

- The majority of the members of the AC, including the AC Chairman, should be independent, and
- All the AC members should be non-executive directors. The AC monitors the executive management and should act independently from management when reviewing the external audit, financial statements and internal control. This is why all its members should be non-executives.

The Code (guideline 12.2) also includes guidelines about the skills and experience of AC members.

- All the members of the AC should be appropriately qualified to carry out their responsibilities.
- At least two members of the AC, including the AC Chairman, should have ‘recent and relevant accounting or related financial management expertise or experience’.

There is nothing in the Companies Act or the Code to prevent the Board Chairman from being the AC Chairman too, but normal practice is for these two positions to be held by different individuals.

The Board should disclose in its annual report the measures that have been taken by the AC members to keep abreast with changes in accounting standards and any other issues which have an influence on financial reporting.

The Code (guideline 12.9) also specifies that a former partner or director of the company's existing auditors should not act as a member of the AC:

- Within 12 months of the date that he or she ceased to be a partner or director of the auditors and, if longer
- For as long as he or she retains a financial interest in the audit firm.

This requirement is a measure to ensure the independence of the AC and its members.

The Nominating Committee (NC) should have the responsibility for recommending appointments to the AC and for deciding the length of tenure for members of the AC. The Guidebook for Audit Committees in Singapore comments that rotation of members on the AC refreshes the committee and introduces new ideas and new perspectives to the committee's processes. In making recommendations for new appointments to the AC, the NC should consider both the independence of the individual and whether he/she is suitably qualified for the role.

4.5 Duties of the AC

The Companies Act specifies the functions of the AC, which are to review:

- With the auditor, the audit plan
- With the auditor, his evaluation of the system of internal accounting controls
- With the auditor, his audit report
- The assistance given by the company's officers to the auditor
- The scope and results of the internal audit procedures, and
- The statement of financial position and statement of profit or loss of the company or group.

The AC should also nominate a person or persons as auditor ‘together with such other functions as may be agreed to by the Audit Committee and the board of directors.’

The auditor has the right to appear and be heard at any meeting of the Audit Committee and must appear before the AC when required to do so by the committee (Companies Act S201B(6)).

At the request of the auditor, the Chairman of the AC should convene a meeting of the committee to consider any matters that the auditor believes should be brought to the attention of the Board of Directors or shareholders (Companies Act S201B(7)).
The Mainboard (and Catalist) Rules require that the Audit Committee should investigate interested person transactions (IPTs) with the company. These are transactions between the company and an individual who has significant influence over the decision-making processes of the company – a director, the CEO, a controlling shareholder or any of their associates. With an IPT, there is a risk that the transaction could be prejudicial to the interests of the company or its shareholders, particularly the minority shareholders.

(Note: An IPT is not the same as a related party transaction. A related party transaction (RPT) for the purpose of financial reporting is not necessarily an IPT, requiring investigation by the AC, because an RPT is defined more widely than an IPT.)

4.5.1 The Code and duties of the AC

The Code of Corporate Governance (guideline 12.4) expresses the duties of the AC largely in terms of reviewing. The duties of the AC should include:

- Reviewing the 'significant financial reporting issues and judgements' so as to ensure the integrity of the financial statements and any other statements by the company relating to its financial performance
- Reviewing and reporting to the Board, at least annually, on the effectiveness and adequacy of the company's internal controls (financial controls, operational controls, compliance controls and information technology controls)
- Reviewing the effectiveness of the company's internal audit function
- Reviewing the scope and results of the external audit
- Reviewing the independence and objectivity of the external auditors
- Making recommendations to the Board about proposals by the board to the shareholders on the appointment, re-appointment or removal of the auditors
- Approving the remuneration and terms of engagement of the external auditors

The Code (guideline 12.6) also states that the AC should:

- Review the independence of the external auditors annually
- Where the external auditors carry out a large amount of non-audit work for the company, 'keep the nature and extent of such services under review, seeking to maintain objectivity'
- Review the company's whistle-blowing policy and procedures

To fulfil its duties the AC should have authority to investigate any matter within its terms of reference. It should have full access to any of the company's management and full co-operation from them. The AC should also be able, at its own discretion, to invite any director or executive to attend its meetings.

The company's management should ensure that the AC is kept properly informed and management should take the initiative in providing the AC with information. However the AC is a committee of the board, providing advice to the board, and any disagreement between the AC and executive management, particularly the CEO and CFO, should be resolved at board level.

4.6 Broad areas of AC responsibility

The core functions of the AC are concerned with oversight, assessment and review. The AC does not perform the functions that it monitors and reviews. For example, management is responsible for preparing the financial statements and the auditors are responsible for preparing the audit plan and performing the audit.

The high-level oversight role of the AC may sometimes lead to more detailed work. If the AC is not satisfied with the explanations of management or the auditors about a particular financial reporting issue, the AC may have no alternative but to look into the detail more closely. If necessary, the AC should seek external independent advice.
The Companies Act and the Code of Corporate Governance are largely similar in the areas of responsibility they identify for the AC. These are:

- Conduct of the external audit
- Review of internal controls, although the Companies Act limits this to evaluation of accounting/financial controls (and does not include operational, compliance or IT controls)
- Review of internal audit
- Appointment or re-appointment of the external auditors, although the Code also states that the AC should approve the remuneration of the external auditors

The only significant difference between the Companies Act and the Code is the requirement in the Code for the AC to review the independence of the external auditors, and to monitor the amount and nature of non-audit work (guideline 12.6).

The role of the AC with regard to internal controls (including financial controls and whistle-blowing arrangements) and the internal audit function is described in a later chapter.

### 4.7 Audit Committee meetings

The AC should meet as frequently as necessary to carry out its responsibilities. Meetings should be timed to coincide with key dates in the financial reporting cycle. For example, the AC may meet when the auditors have prepared their audit plan for the year, and before the publication of the interim financial statements and the annual report and accounts.

Only the AC Chairman and members are entitled to attend committee meetings, but it should be expected that the AC will often invite others to attend meetings – in particular the CFO, lead partner for the external audit and head of internal audit.

The Code (guideline 12.5) states that the AC should also meet with (a) the external auditors and (b) the internal auditors at least annually without the presence of any of the management. This should make it easier for the auditors to express their views to the AC without criticism or interruption from management, and to enable issues to be discussed in confidence.

### 4.8 AC and the financial statements

The Board of Directors is required to provide a fair, balanced and understandable assessment of the company’s performance, position and prospects. It can ask the AC to provide advice on this matter. The corporate governance code in the UK is specific:

‘Where requested by the Board, the Audit Committee should provide advice on whether the annual report and accounts...is fair, balanced and understandable and provides the information necessary for shareholders to assess the company's performance, business model and strategy.’

The AC should report on its activities to the Board on matters such as:

- Significant issues that it has identified in relation to the financial statements, and how these have been dealt with
- Its assessment of the effectiveness of the external audit process and its recommendation about the appointment or re-appointment of the external auditors
- Its assessment of the effectiveness of the internal control system

Management prepare the financial statements for approval by the Board. The responsibility of the AC is to review the significant issues and judgements that are made in preparing the statements, taking into consideration any matters or concerns raised with the AC by the external auditors.

- The AC may consider significant accounting policies used to prepare the statements and any significant estimates or assumptions on which the statements are based.
• Management should inform the AC about the approach they have taken to account for any significant or unusual transaction, where there may be alternative approaches to accounting for it.

• If the AC is not satisfied with any of the explanations by management, it should report its views and concerns to the Board.

4.9 AC and the annual audit

The Companies Act states that the AC should review, with the auditors, the audit plan. To comply with this requirement the AC should:

• Ensure at the start of the annual audit that there is an audit plan in place, and

• Consider whether the audit plan seems consistent with the scope of the audit and whether the seniority, expertise and experience of the audit team is appropriate.

At the end of the audit, the AC should discuss with the auditors any major issues that have arisen. The AC members should understand any key accounting judgements that have been made in preparing the financial statements and the AC should review any significant errors that were identified during the audit and obtain explanations as to why some of these errors might remain unadjusted.

The auditors should also inform the AC about any weaknesses in the company's internal financial controls that have been identified during the course of the audit. As part of its review of the internal control system, the AC should then check with management the measures that are being taken to deal with these weaknesses.

4.10 Audit review by the Audit Committee

At the end of the audit, the Audit Committee should assess the effectiveness of the audit process. As a part of this assessment, the committee should:

• Review whether the auditors have carried out the audit plan (and consider the reasons for any changes to the plan)

• Consider how the auditors have dealt with management with regard to:
  – Contentious issues such as assumptions or estimates in the financial statements
  – In their handling of key accounting and audit judgements, and
  – In their comments on the company's internal financial controls

• Obtain feedback about the conduct of the auditors from the CFO and the head of internal audit.

The AC should report its views on the effectiveness of the external audit process to the Board. This may accompany its recommendation about the re-appointment or removal of the auditors.

4.11 AC and auditor independence

The AC is responsible for reviewing the independence and objectivity of the external auditors, but the Code of Corporate Governance does not give guidance on how this might be done in practice. The main areas of concern are likely to be:

• The amount of non-audit work given to the audit firm and whether this creates a self-interest threat to the firm's independence

• The amount of time that the lead audit partner, or other senior members of the audit team, have been carrying out the annual audit, and whether this creates a familiarity threat to independence.

4.11.1 Non-audit work

Non-audit work might include:

• Tax consultancy
• Setting up subsidiaries in countries with a low-tax regime
• Investigating a target for a potential takeover bid
• Helping the company to prepare a bid for a major government contract
• IT systems advice and assistance

The AC should keep under review the amount of non-audit work that the company gives to the audit firm, and should also consider whether it is appropriate both in terms of the quantity of work and also the nature of the work. For example it would be inappropriate for the company to give non-audit work to the audit firm so that:

• The audit firm would audit work performed for the company by its own employees
• Employees of the audit firm make management decisions for the company
• The audit firm is put into a position where it acts as advocate for the company

The AC may also establish guidelines for the total amount of non-audit work given to the audit firm. For example, the AC may take the view that as a general guide, fees earned from non-audit work should not exceed fees for the external audit. Where the AC is concerned about the amount of non-audit work for the audit firm, it should report its concerns to management and, if necessary, to the Board.

4.11.2 Familiarity threat: audit partner rotation

• The AC should ask for confirmation each year from the audit firm that the auditors and their staff do not have any family, financial, employment, investment or business relationship with the company that could adversely affect their independence and objectivity.
• The AC should also ask the audit firm about the measures that the firm takes internally to ensure the independence of the audit team, such as measures regarding the rotation of audit partners and staff.
• The AC might review whether the company has employed former members of the audit team and whether any appointment that has been made could threaten the independence of the audit for the company's management.

4.12 Appointment and removal of external auditors

In some countries (eg the UK), the AC is the responsible for maintaining the company's relations with its external auditors, and it has the primarily responsibility for the appointment or removal of the external auditors. In Singapore, the Code of Corporate Governance (guideline 12.4 (e)) states that the AC should make a recommendation to the board about the appointment, reappointment or removal of the external auditors. The assessment should be carried out annually.

If the AC recommends replacement of the existing auditors, and the board agrees, the AC should approve the selection of the replacement auditors and make its recommendation to the board. A recommendation to replace the auditors will presumably be based on considerations such as:

• The expertise of the auditors
• The resources of the auditors
• Auditor independence
• The effectiveness of the audit process

4.13 Board report on the work of the AC

The Code of Corporate Governance (guideline 12.8) requires the Board to make some disclosures in its annual report about the work of the AC.

• The Board should disclose the names of the AC members and the key terms of reference of the AC
• The AC should state in the annual report the total amount of fees paid to the auditors during the year, divided into fees for audit and non-audit services
PART C GOVERNANCE AND RESPONSIBILITY | 10: Board committees

- The annual report should disclose the existence of a whistle-blowing policy
- The Board should disclose the measures taken by the AC members to keep up to date with changes in accounting standards and other developments that affect financial reporting

Question 10.3

List four responsibilities of the Audit Committee of a listed company, with regard to the annual audit and the external auditors.

4.14 SGX listing rules and the AC

Changes to the listing rules of the Singapore Exchange were introduced in 2011, with the aim of improving corporate governance practices and encouraging greater disclosure. A new requirement introduced by the change in the rules is that the Board of Directors with the concurrence of the Audit Committee should issue their opinions on:

- The adequacy of internal controls (with disclosure in the annual report and accounts and also at the initial listing stage)
- The competency, character and integrity of the company's Chief Financial Officer (at the initial listing stage)

Mainboard Rule 610 (5) and (6) states that when a company is seeking an initial listing the prospectus should include:

- ‘An opinion of the Board, with the concurrence of the Audit Committee, on the adequacy of internal controls, addressing financial, operating and compliance risks’ and
- ‘A statement by the issuer's Audit Committee that, after making all reasonable enquiries and to the best of their knowledge and belief, nothing has come to the attention of the Audit Committee members to cause them to believe that the person appointed as the Chief Financial Officer (or its equivalent rank) does not have the competence, character and integrity expected of a Chief Financial Officer (or its equivalent rank) of a listed issuer.’

Mainboard Rule 1207 (10) states similarly that the annual report must include the ‘opinion of the Board with the concurrence of the Audit Committee, on the adequacy of the internal controls, addressing financial, operating and compliance risks.’

In addition, on leaving the company, directors and senior executives are required to inform the Singapore Exchange in writing whether they are aware of any irregularities in the company.
SECTION SUMMARY

The Board of Directors must present financial statements to the shareholders that are reliable and provide a true and fair view of the company's financial performance and position. The Board should also provide shareholders with reliable information about the company's prospects.

The external auditors provide an opinion about the financial statements that must be independent and objective, and it is therefore essential to protect the independence of the auditors.

The Board has responsibilities for ensuring that the system of financial controls is robust and effective, the financial statements give a true and fair view, and that the auditors provide an independent professional opinion and also perform their audit work competently.

The AC has a key role in ensuring that the Board fulfils its responsibilities in these areas. (Practical guidance for Audit Committees is provided in the Guidebook for Audit Committees in Singapore, produced by the Audit Committee Guidance Committee and issued by the Monetary Authority of Singapore.)

5 Risk Committee of the Board

SECTION INTRODUCTION

The Board is responsible for monitoring the effectiveness of the risk management system. A guideline in the Singapore Code notes that a company may establish a Risk Committee of the Board, to help with monitoring the company's risk management framework and policies.

The Board of Directors is required by the Code of Corporate Governance (principle 11) to monitor the effectiveness of the company's risk management and internal control systems.

As part of its role, the AC may review the effectiveness of the company's internal control system and its internal controls. These consist of financial, operational, compliance and IT controls. The Code does not give the AC responsibility for monitoring the effectiveness of the company's risk management system.

5.1 Role of a Risk Committee

The Board therefore needs to make arrangements whereby it monitors the risk management system. In some companies the Board may take on this role itself; or it may delegate the role to the AC.

However the Board of a company in a high-risk industry may choose to establish a Risk Committee of the Board. This committee would be responsible for:

- Monitoring the effectiveness of the risk management system, and
- Possibly also taking on the role from the AC of monitoring the effectiveness of operational, compliance and IT internal controls. The AC should retain responsibility for monitoring financial controls, because the effectiveness of financial controls has direct implications for the reliability of the accounts and financial statements.

There are no guidelines on the composition of a Risk Committee, but the principle should apply that no one should be in a position where they can monitor their own work. It is therefore appropriate for a Risk Committee to consist entirely of NEDs.
A company may also have a **risk management committee**. A large group of companies may have a group risk management committee and divisional risk management committees for each division in the group. A risk management committee:

- Consists of senior managers, and may also include specialised risk officers
- Has responsibility for the management of risk within the company (or group or division)

A risk management committee has responsibilities for managing risk. A Risk Committee of the Board is not a management body: it monitors risk management. The risk management committee should report to the Risk Committee of the Board, and keep the Risk Committee informed about risks and risk management issues.

The Risk Committee in turn should report and (where appropriate) make recommendations to the Board. Its reports should include an assessment of the effectiveness of the risk management system.

### 5.2 When should Risk Committees be used?

The Boards of many companies may consider that they do not need a separate Risk Committee of the Board, or even risk management committees. Risk management is critically important in some industries, such as banking and oil, where the nature of risks can be complex and failure to manage risk could have serious financial consequences. In the UK, following the global financial crisis in 2007–2008, a report (the Walker Report) criticised Non-Executive Directors of banks for having an insufficient knowledge and understanding of risks in the banking industry. The report recommended that banks should create Risk Committees of the board, comprising NEDs with a very good understanding of risks in the banking business.

It would be wrong to presume, however, that risk committees are appropriate for every listed company or every industry.

(It may be worth remembering that a company may not have a large number of Non-Executive Directors, but NEDs sit on the Audit Committee, Remuneration Committee and Nominating Committee. Many NEDs may therefore sit on more than one board committee. Introducing another board committee with NED membership, such as a Risk Committee, could result in NEDs being given more committee memberships than they have time for.)

The Risk Committee is considered in more detail in later chapters.

### SECTION SUMMARY

A Risk Committee may be established by the Board of a company in a high-risk industry such as banking. Its role would be to monitor the company’s risk management system and report to the board. It should operate alongside the Audit Committee, whose role is set out in the Code of Corporate Governance; however, the Risk Committee may take on some of the ACs role and be given responsibility for monitoring part of the internal control system.
Chapter Roundup

Board

Responsibilities

Committees

Nominating Committee (NC)
- Appointments
- Vacancies
- Succession planning
- Annual reviews

Remuneration Committee (RC)
- Remuneration Directors
- Level
- Mix
- Ethics
- Regulation
- Competition
- Consultants

Audit Committee (AC)
- EA Appointment
- Independence
- Review EA
- Review IA
- Review IC

Risk Committee
- Optional
- Review RMS
- Review IC

Quick Quiz

1. What is the guideline in the Code of Corporate Governance for the composition of the Nominating Committee (NC)?
2. How frequently should there be a review and assessment of the board's performance?
3. What is succession planning?
4. What is gradual refreshing of the Board?
5. Why should no individual be involved in deciding his or her own remuneration?
6. What are the two main functions of the Remuneration Committee (RC)?
7. What is the guideline in the Code of Corporate Governance for the composition of the Audit Committee (AC)?
8. In deciding whether to recommend the appointment or re-appointment of the external auditors, what factors should the AC consider?
Answers to Quick Quiz

1. The NC should consist of at least three directors. The majority of the committee members, including the NC Chairman, should be independent. If the company has a lead independent director, he or she should be a member of the NC.

2. Annually, in a formal process.

3. Planning in advance for future appointments to the Board. Succession planning is particularly important for the positions of Board Chairman and CEO.

4. Changing the board gradually over time by replacing existing directors with new directors. This is often particularly important for Non-Executive Directors.

5. To avoid a conflict of interest for the individual.

6. (a) To review and recommend to the Board a general framework of remuneration for the Board members and for key management personnel.

(b) To review and recommend to the Board the specific remuneration packages for each director and for key management personnel.

7. The AC should consist of at least three directors. All the AC members should be NEDs and the majority, including the AC Chairman, should be independent. All the members of the AC should be appropriately qualified to carry out their responsibilities and at least two members, including the AC Chairman, should have ‘recent and relevant accounting or related financial management expertise or experience’.

8. • The expertise of the members of the audit team
• The resources of the audit team (and their sufficiency)
• Auditor independence
• The effectiveness of the audit process

Answers to Questions

10.1

The following lists suggest some criteria for assessment, but it is not exhaustive or complete.

The whole Board

• The Board plays a significant role in deciding the company's long-term strategy.

• The Board approves each year the annual budget and capital budget, and monitors actual performance against the budgets.

• The Board has approved an ethics policy for the company.

• The composition of the Board complies with the Code of Corporate Governance guidelines.

• The Board has established committees as required by the Code of Corporate Governance.

• There is a clear role description for each director.

• The Board has a written list of matters reserved for its own decision-making, and this list is appropriate for the requirements of the company.

• There is a formal review process, approved by the Board, for performance assessment.

• The Board has a good relationship with each of its key stakeholders and stakeholder groups.

• There is a defined and continuous flow of information from management to the Board (and from the Board to management).
10: Board committees

PART C GOVERNANCE AND RESPONSIBILITY

- Information is accurate, adequate and timely. The content of board papers is of good quality.
- There are regular and sufficient meetings of the Board.
- Attendance at Board meetings is recorded.
- Minutes of Board meetings are prepared and distributed quickly after each board meeting.
- The Board and company comply with all the guidelines of the Code of Corporate Governance, or explain why they do not, thereby adhering to the ‘comply or explain’ requirement).
- Board meetings have open discussions on all main agenda items.
- The Board has good lines of communication with investors and stock market analysts.
- All newly appointed directors receive a tailored and formal induction programme, and all directors receive regular training.

10.2

Granting shares to senior executives will be of some benefit if they succeed in providing an incentive to the individuals concerned and also help to align their interests with the interests of the company's shareholders and the long-term interests of the company.

Long-term incentive schemes, such as the award of share options, are based on the idea that the offer of rewards for successful long-term performance will encourage senior executives to put more effort into the work that they do and as a result improve company performance in the way intended.

Several factors will affect the success of the scheme from the perspective of the company.

- The amount and potential value of the share options. Executives should be awarded sufficient share options, so that their potential value creates an incentive for the individual concerned.
- The period of time that the individuals must wait before being able to exercise their options. Individuals should usually be required to wait at least three years before being able to exercise their options. If they are required to wait longer, the ability of the options to act as an incentive may be reduced.
- Share options have value only if the share price is higher than the market price of the shares when the options can be exercised. A higher share price should be in the interest of the other shareholders of the company. However, a share option scheme may not have value if the executive directors or senior executives are able to influence the share price in the short term, but do not succeed in improving the share price over the long term.
- General economic and business conditions may be significant. If the economy is entering a recession, or if business conditions are about to change for the worse, there may be little that senior executives can do to improve performance and the share price until the economy and business conditions improve. In these circumstances, executives are perhaps more likely to be incentivised by annual cash bonus arrangements.

10.3

Responsibilities of the Audit Committee with regard to the annual audit and the external auditors:

- Recommend to the board the appointment, re-appointment or removal of the auditors, for the board to recommend in turn to the shareholders at the AGM
- Approve the remuneration and terms of engagement of the external auditors
- Review the independence and objectivity of the external auditors
- Review the effectiveness of the annual audit process
- Develop a policy on the allocation of non-audit work to the company's external auditors
The Singapore Code of Corporate Governance has been developed as a framework for good corporate governance practice. It has similarities with other corporate governance codes, such as those in the UK and Hong Kong. There are also differences, which reflect the different corporate environment in Singapore.

This chapter describes aspects of the law that are associated with corporate governance and then goes through the principles and guidelines in the Singapore Code, comparing them with the codes of corporate governance in the UK and Hong Kong.
Syllabus Handbook

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<th>Learning outcome</th>
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<td><strong>Scope of Corporate Governance</strong></td>
<td>2</td>
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<tr>
<td>Explain and briefly explore the development of the Singapore Code of Corporate Governance including its impetus and background, in comparison to other major principles-based corporate governance codes and the effects of this code on businesses.</td>
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**EMERGING TRENDS AND CURRENT ISSUES**

Summarise the key issues in relation to both domestic and international emerging trends and current issues.

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**ESSENTIAL READING**


Singapore Exchange Listing Rules and adequacy of internal controls: see Rule 610 (5) and (6) and Chapter 12(07); also

*Practice Note 12B: Adequacy of Internal Controls*, available at [http://rulebook.sgx.com](http://rulebook.sgx.com)


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1 Laws and regulations

**SECTION INTRODUCTION**

The *Code of Corporate Governance* 2012 applies within a framework of laws and regulations. This section describes various aspects of company law and securities law that relate to corporate governance practices.

The regulatory framework for corporate governance in Singapore is based partly on laws and regulations, and partly on the *Code of Corporate Governance* 2012. In order to appreciate the Code fully, it is necessary to understand the legal provisions affecting corporate governance in Singapore.

Various aspects of corporate governance are regulated, although there is no single piece of corporate governance law. Some of these, which are described below, relate to:

- Appointment and re-election of directors
- Automatic disqualification of directors
- Identifying the ownership of a company
• The powers of the Board of Directors
• Duties of directors
• Legal protection for minority shareholders against prejudicial behaviour
• Insider trading

The requirements of the Companies Act relating to the Audit Committee are described in the previous chapter, and the law relating to board disclosures about internal controls is described in a later chapter.

1.1 Appointment, re-election and disqualification of directors

The regulations for appointment and re-election of directors are contained partly in the Companies Act and partly in the company’s articles of association.

• At the annual general meeting after their appointment, a director should be formally appointed by the shareholders.

• The Companies (Amendment) Act 2014 introduced a new section 149B to the Companies Act, which clarifies the appointment of directors and provides expressly that a company may appoint a director by ordinary resolution passed at a general meeting.

• Another amendment to the Act was that companies should not be required to vote annually for the re-election of directors who are over 70 years of age. The reason for this change was that the view that individuals above 70 years of age can be capable of doing the job of a director and are often reappointed in practice, and it is best left to shareholders to decide whether to approve the appointment of a director.

• The articles of association usually provide that the term of office of a director should be not more than three years. At the end of this term of office, the director should either retire or stand for re-election at the annual general meeting.

• The articles of association usually also provide that at least one-third of the Board members should retire from office by rotation, and either retire from the Board or stand for re-election.

In addition, for companies regulated by MAS, Directors and other key personnel must show that they are ‘fit and proper’ to hold office in their company. The onus is on each person to demonstrate that he or she is ‘fit and proper’; the onus is not on MAS to show otherwise. Criteria for assessing whether a person is ‘fit and proper’ include: honesty, integrity and reputation; competence and capability; and financial soundness (MAS Guidelines Number FSG-G01: Guidelines on Fit and Proper Criteria).

The SGX listing rules and the Code of Corporate Governance do not include any rules or guidelines about the re-election of directors. Common practice, as indicated above, is for the articles of association to provide for directors to stand for re-election every three years (or resign).

Some other countries have rules or guidelines that call for more frequent re-elections of directors. In the UK for example, the corporate governance code requires that for the 350 largest listed companies (the ‘FTSE 350’) all directors should stand for re-election at the annual general meeting every year. This gives shareholders an opportunity to express their dissatisfaction with the board – for example by voting against the re-election of the Chairman or members of a board committee such as the remuneration committee.

1.2 Automatic disqualification regime for directors

The Companies Act includes an automatic disqualification regime for directors who are convicted of offences involving fraud or dishonesty.

If an individual is convicted (in Singapore or elsewhere) of an offence involving fraud or dishonesty that is punishable with imprisonment for three months or more, he or she is automatically disqualified from acting as a director or from taking part in the management of the company for five years.
1.3 Identifying company ownership

It should be possible to identify the ownership of a company through the registers that companies are required to maintain.

- Public companies are required (by the Companies Act, section 190) to keep a register of shareholders. If there are more than 50 shareholders there should also be an index of shareholders, so that details of shareholdings can be located in the register. The Companies (Amendment) Act introduced a new rule for private companies: these companies are no longer required to keep a register of members. Instead, an electronic register of members of private companies will be maintained by ACRA as the ‘official’ record.

- Listed companies must keep an additional register of substantial shareholders. These are shareholders holding 5% or more of the voting rights in the company.

- Persons who control voting rights through other individuals or companies must also disclose these interests.

- Companies must keep a register of shareholdings of directors, including details of the shares they own in the company and shares in which they have an interest (Section 164 Companies Act).

Information should therefore be available to establish who, if anyone, has a controlling interest in a company.

1.4 Powers of the Board of Directors

The Companies Act (Section 157A) states that the business of a company is managed ‘by or under the direction of the directors’. The directors have the right to exercise all the powers of the company except those that the constitution of the company or the Companies Act requires the company to exercise in a general meeting.

1.5 Duties of directors

Under common law, directors have a duty to:

- Act with reasonable skill, care and diligence
- Act in good faith and in the interests of the company
- Use their powers for their proper purpose
- Avoid conflicts of interest
- Use reasonable judgement in the performance of their duties

The Companies Act (Section 157) specifies similar statutory duties for directors.

- Directors must act honestly and exercise reasonable diligence in the discharge of their duties.

- Directors and officers are prohibited from making improper use of information that they have obtained by virtue of their position to make a gain for themselves or another person, or to cause a loss to the company.

Anyone who commits a breach of any of the provisions of this section will be liable to the company for any profit that he or she has made or for any damage suffered by the company. If found guilty of a criminal offence, the individual will also be liable to a fine of up to S$5,000 or imprisonment for up to 12 months, and disqualified from acting as a director.

- Directors are required to disclose any transactions or appointments to other offices which may create conflict of interests. Section 156 of the Companies Act states: ‘Every director of a company who is in any way, whether directly or indirectly, interested in a transaction or proposed transaction with the company shall as soon as practicable after the relevant facts have come to his [her] knowledge declare the nature of his [her] interest at a meeting of the directors of the company.’
A CEO who is not also a Director is now required (following the Companies (Amendment) Act) to disclose his/her interests in securities of the company (and those of his/her family) and any conflict of interest in transactions or proposed transactions with the company, or arising from any offices held or properties possessed by him/her.

Note: In addition to the duties laid out in the Companies Act, directors also have an underlying fiduciary duty to act in the best interests of a company's shareholders.

1.6 Protection against prejudicial behaviour

The *Companies Act* (Section 216) provides some protection for minority shareholders against abuse of power by a controlling shareholder or by the Board of Directors. Any shareholder or debenture holder may apply to the Court for an order on the grounds that:

- The affairs of the company are being conducted or the powers of the directors are being exercised in a manner that is oppressive to them or in disregard of their interests as shareholders or debenture holders; or
- Some act of the company has been done (or is threatened) which unfairly discriminates against them or is otherwise prejudicial to them.

In addition, under Section 216A of the *Companies Act*, shareholders can bring a derivative action against directors of the company. This is legal action in the name of the company, rather than in the name of the shareholders themselves. Shareholders may apply to the Court for leave to bring an action in the name of and on behalf of the company, or intervene in an action to which the company is a party for the purpose of prosecuting, defending or discontinuing the action on behalf of the company.

1.7 Insider trading

The *Securities and Futures Act 2001* contains rules that make insider trading a criminal offence. Insider trading is trading in the securities of a company when in possession of 'price-sensitive information' about the company. *Price-sensitive information* is information about the company that:

- Is not generally available
- But if it were generally available, it would be likely to have a material effect on the price or value of the securities of the company

Section 218 of the Act specifies conduct that is prohibited by 'connected persons' who are in possession of price-sensitive information. A connected person must not:

- Buy or sell any of the securities in the company
- Procure another person to buy or sell any of the securities in the company
- Communicate the information, directly or indirectly to another person if he/she knows (or ought reasonably to know) that the other person is likely to buy or sell the securities or procure another person to buy or sell the securities

A person is 'connected' to a company if

- He/she is a director or other officer of the company or a related company, or
- A substantial shareholder in the company or a related company, or
- He/she occupies a position that may reasonably be expected to give him/her access to price-sensitive information of a kind to which this section applies by virtue of any professional or business relationship, or being an officer of a substantial shareholder in the company or a related company.

Section 219 of the *Securities and Futures Act* contains the same rules for other persons who are in possession of price-sensitive information. They do not have to be connected to the company.
There are two types of insider trading offence:

- A **dealing offence**, which is buying or selling shares in the company, or procuring someone else to buy or sell shares, when in possession of price-sensitive information, and

- A **communication offence**, which is communicating price-sensitive information to another person, expecting that other person to deal in the company's shares or procure someone else to deal. It is not necessary for the prosecution to prove that the person receiving the information did intend to use it to deal in shares of the company.

A person found guilty of an offence under section 218 or 219 will be liable on conviction to a fine of up to S$250,000 or to imprisonment for a term of up to seven years, or to both.

In addition, MAS may impose civil penalties on individuals who have profited from insider dealing. For example, in April 2015 MAS imposed civil penalties totalling almost S$12 million on a Mr Lim and his niece who were found guilty of using price-sensitive non-public information to trade in shares of Singapore Petroleum company and Keppel Corporation in 2009.

### 1.8 SGX listing rules and corporate governance

Other regulations which affect corporate governance include the listing rules of the Singapore Exchange, which apply to all listed companies.

#### 1.8.1 The comply or explain rule

The most important rule relating to corporate governance is that listed companies must comply with the guidelines in the Code or explain any non-compliance. This may be known as the ‘comply or explain’ rule.

The Code of Corporate Governance is voluntary, and listed companies are not required to comply with all the guidelines in the Code. However they must explain any non-compliance in their annual report.

Investors in general expect listed companies to comply fully with the Code, and companies should therefore be able to provide convincing reasons for any non-compliance.

#### Emerging issues

The Singapore Exchange is currently reviewing how listed companies are abiding by the comply or explain rule in relation to the Code. The review covered around 550 companies and concentrated upon the composition of boards, risk management and internal control systems, and disclosure of remuneration.

As noted in Chapter 8, the Corporate Governance Council’s consultation paper (published in January 2018) about potential revisions to the Code of Corporate Governance recommended that companies need to provide more meaningful communication to stakeholders when describing their corporate governance practices.

The Consultation Paper also proposed that ‘Principles’ should be mandatory, although companies will still have discretion in how they apply Guidelines (re-named as ‘Provisions’ under the Council’s proposals).

#### 1.8.2 Rule 1207 (10) on adequacy of internal controls

The Main Board Rule 1207 (10) requires the annual report to contain a statement expressing the opinion of the board (with the agreement of the Audit Committee) as to the adequacy of the internal controls, 'addressing financial, operational and compliance risks'.
SECTION SUMMARY
This section has described various aspects of the law that have relevance to corporate governance in Singapore. The Code of Corporate Governance should be seen within the context of companies and securities laws.

The Code of Corporate Governance is voluntary, but the 'comply or explain' rule of the Singapore Exchange puts considerable pressure on listed companies to comply with the guidelines in the Code.

2 Singapore Code of Corporate Governance 2012

SECTION INTRODUCTION
This section introduces the Code of Corporate Governance 2012.

2.1 History of the Singapore Code
Singapore’s Code of Corporate Governance was first issued by a Corporate Governance Committee in 2001. It was reviewed and revised in 2005, and responsibility for the Code was transferred to the Monetary Authority of Singapore and the Singapore Exchange in 2007. MAS issued a revised version of the Code in 2012.

2.2 UK and Hong Kong Codes
The Singapore Code is a voluntary code. It has similarities with the UK Corporate Governance Code, which remains a benchmark code of governance, and the Hong Kong Corporate Governance Code.

The UK Corporate Governance Code is the responsibility of the Financial Reporting Council. It has evolved from its original form as the Cadbury Code in 1992 to a code that is now reviewed regularly, most recently in 2016. The UK Code consists of principles, supporting principles and detailed provisions (guidelines). These cover five areas of corporate governance:

- Leadership (by the Board)
- Effectiveness (of the Board)
- Accountability
- Remuneration
- Relations with shareholders

Listed companies are required by the UK Listing Rules to comply with the provisions of the Code or explain any non-compliance. In this respect, the status of the UK Code is similar to the Singapore Code.

WEBSITE
The UK has been at the forefront of many developments in corporate governance. The Financial Reporting Council (FRC) is the UK regulatory body with responsibility for the governance code, but a number of items on corporate governance can be found on the FRC website at:

www.frc.org.uk/Our-Work/Codes-Standards/Corporate-governance.aspx
The Hong Kong Corporate Governance Code is included in the Listing Rules of the Hong Kong Stock Exchange. The Listing Rules themselves include some corporate governance provisions that must be complied with.

- The Code contains some general principles, and for each principle there are Code provisions and recommended best practices.
- Listed companies are required to comply with the provisions or explain any non-compliance.
- The recommended best practices are for guidance only, and non-compliance with these does not have to be reported and explained.

The principles and provisions in the Hong Kong Code cover six areas:

- Directors
- Remuneration of directors and senior management
- Accountability and audit
- Delegation by the Board
- Communication with shareholders
- Company secretary

2.3 Purpose of the Singapore Code

The Code does not prescribe rules about what companies should do. Instead it specifies a number of principles and supporting guidelines. Compliance with these is intended to have several effects.

- It should create an effective Board of Directors, which understands its role and responsibilities. The Board will have access to the information that it needs to fulfil its responsibilities. There should also be a strong independent element on the Board, so that there is no concentration of power in the hands of one person or a small group of individuals.
- There will be formal and transparent processes for appointments of individuals to the Board, for assessing board performance and for deciding remuneration of senior executives and directors.
- There should be accountability and audit. The Board should have an Audit Committee and the company should have an internal audit function, and there should be a strong internal control system.
- There should be suitable levels of disclosure and communication between the company and its shareholders.

2.4 Structure of the Code

The Code consists of 16 principles, and for each principle there are supporting guidelines. The principles are grouped into four broad areas:

- Board matters
- Remuneration matters
- Accountability and audit (including risk management)
- Shareholder rights and responsibilities

The principles and guidelines in each of these four areas are described in the following paragraphs, together with comparisons with the principles and provisions or guidelines of the UK and Hong Kong Codes.
## 3 Board matters

### SECTION INTRODUCTION

This section describes the principles and guidelines in the Code relating to Board matters.

The Singapore Code contains six principles on matters relating to the board of directors.

### 3.1 Board's conduct of affairs

<table>
<thead>
<tr>
<th>Principle 1</th>
<th>Every company should be headed by an effective Board to lead and control the company. The Board is collectively responsible for the long-term success of the company. The Board works with Management to achieve this objective, and remains accountable to the Board.</th>
</tr>
</thead>
</table>
| Guidelines | 1.1 The Board's role is to:  
(a) Provide entrepreneurial leadership, set strategic objectives, and ensure that the necessary financial and human resources are in place for the company to meet its objectives;  
(b) Establish a framework of prudent and effective controls which enables risks to be assessed and managed, including safeguarding of shareholders' interests and the company's assets;  
(c) Review management performance;  
(d) Identify the key stakeholder groups and recognise that their perceptions affect the company's reputation;  
(e) Set the company's values and standards (including ethical standards), and ensure that obligations to shareholders and other stakeholders are understood and met; and  
(f) Consider sustainability issues, eg environmental and social factors, as part of its strategic formulation.  
1.2 All directors must objectively discharge their duties and responsibilities at all times as fiduciaries in the interests of the company.  
1.5 Every company should prepare a document with guidelines setting forth:  
(a) The matters reserved for the Board's decision; and  
(b) Clear directions to Management on matters that must be approved by the Board.  
The types of material transactions that require board approval under such guidelines should be disclosed in the company's Annual Report.  
1.6 Incoming directors should receive comprehensive and tailored induction on joining the Board. This should include his duties as a director and how to discharge those duties, and an orientation program to ensure that they are familiar with the company's business and governance practices. The company should provide training for first-time director in areas such as accounting, legal and industry-specific knowledge as appropriate.  
It is equally important that all directors should receive regular training, particularly on relevant new laws, regulations and changing commercial risks, from time to time.  
The company should be responsible for arranging and funding the training of directors. The Board should also disclose in the company's Annual Report the induction, orientation and training provided to new and existing directors.  
1.7 Upon appointment of each director, the company should provide a formal letter to the director, setting out the director's duties and obligations. |
The UK Code states the principle that the Board of Directors should provide entrepreneurial leadership within a framework of prudent and effective controls for assessing and managing risks. It also includes a provision that there should be a formal schedule of matters reserved for decision-making by the Board. It does not specify the role of the Board in the same detail as the Singapore Code.

Like the UK Code, the Hong Kong Code does not list the roles of the Board.

In comparison with the UK and Hong Kong Codes, the Singapore Code gives special emphasis to identifying stakeholder groups and recognising their concerns, and to setting standards of ethical behaviour.

3.2 Board composition and guidance

| Principle 2 | There should be a strong and independent element on the Board, which is able to exercise objective judgement on corporate affairs independently, in particular, from Management and 10% shareholders. No individual or small group of individuals should be allowed to dominate the Board's decision-making. |
| Guidelines | 2.1 There should be a strong and independent element on the Board, with independent directors making up at least one-third of the Board.
2.2 The independent directors should make up at least one-half of the Board where:
   (a) The Chairman of the Board and the chief executive officer (or equivalent) is the same person
   (b) The Chairman and the CEO are immediate family members
   (c) The Chairman is part of the management team, or
   (d) The Chairman is not an independent director.
2.3 An 'independent' director is one who has no relationship with the company, its related corporations, its 10% shareholders or its officers that could interfere, or be reasonably perceived to interfere, with the exercise of the director's independent business judgement with a view to the best interests of the company. The Board should identify in the company's Annual Report each director it considers to be independent. The Board should determine, taking into account the views of the Nominating Committee, whether the director is independent in character and judgement and whether there are relationships or circumstances which are likely to affect, or could appear to affect, the director's judgement. Directors should disclose to the Board any such relationship as and when it arises. The Board should state its reasons if it determines that a director is independent notwithstanding the existence of relationships or circumstances which may appear relevant to its determination, including the following:
   (a) A director being employed by the company or any of its related corporations for the current or any of the past three financial years
   (b) A director who has an immediate family member who is, or has been in any of the past three financial years, employed by the company or any of its related corporations and whose remuneration is determined by the remuneration committee
   (c) A director, or an immediate family member, accepting any significant compensation from the company or any of its related corporations for the provision of services, for the current or immediate past financial year, other than compensation for board service;
   (d) A director:
      (i) Who, in the current or immediate past financial year, is or was, or
      (ii) Whose immediate family member, in the current or immediate past financial year, is or was, a 10% shareholder of, or a partner in (with 10% or more stake), or an executive officer of, or a director of, any organisation to which the company or any of its subsidiaries made, or from which the company or any of its subsidiaries received, significant payments or material services (which may include auditing, banking, consulting and legal services), in the current or immediate past financial year. As a guide, payments aggregated over any financial year in excess of S$200,000 should generally be deemed significant |
(e) A director who is a 10% shareholder or an immediate family member of a 10% shareholder of the company, or

(f) A director who is or has been directly associated with a 10% shareholder of the company, in the current or immediate past financial year.

The relationships set out above are not intended to be exhaustive, and are examples of situations which would deem a director to be not independent. If the Board wishes, in spite of the existence of one or more of these relationships, to consider the director as independent, it should disclose in full the nature of the director's relationship and bear responsibility for explaining why they should be considered independent.

(Note: The Code uses the term 'related corporation'. This means a company that is the company's holding company, subsidiary or fellow subsidiary. In the 2005 version of the Code, the rule applied only to subsidiaries, and not to related corporations.)

2.4 The independence of any director who has served on the Board beyond nine years from the date of his first appointment should be subject to particularly rigorous review. In doing so the Board should also take into account the need for progressive refreshing of the Board.

2.5 The Board should examine its size and, with a view to determining the impact of the number upon effectiveness, decide on what it considers an appropriate size for the Board, which facilitates effective decision making.

2.6 The Board and its board committees should comprise directors who as a group provide an appropriate balance and diversity of skills, experience, gender and knowledge of the company. They should also provide core competencies such as accounting or finance, business or management experience, industry knowledge, strategic planning experience and customer-based experience or knowledge.

2.7 Non-executive directors should:

(a) Constructively challenge and help develop proposals on strategy; and

(b) Review the performance of Management in meeting agreed goals and objectives and monitor the reporting of performance.

Hong Kong and the UK have similar provisions to the Singapore Code. The Hong Kong Listing Rules, like the Singapore Code, state that at least one third of the Board should consist of independent directors. The UK Code states that except in small companies at least one half of the board (excluding the Chairman) should be independent non-executive directors and in small companies there should be at least two independent directors.

All three Codes have a 'nine year rule' for independent directors: in Hong Kong shareholders should vote on a resolution to retain any independent non-executive director who has been on the Board for nine years or more.

The UK Code is similar to the Singapore Code in requiring progressive refreshing of the Board and the need for an appropriate balance and diversity, including gender. From September 2013 Hong Kong introduced a requirement that the Board should 'have a balance of skills, experience and diversity of perspectives appropriate to the requirements of the (company's) business.' A note to the Code states that diversity can be achieved through consideration of a number of factors, such as age, gender, cultural or educational background and professional experience.
3.3 Chairman and Chief Executive Officer

| Principle 3 | There should be a clear division of responsibilities between the leadership of the Board and executives responsible for managing the company's business. No one individual should represent a considerable concentration of power. |
| Guidelines | 3.1 The Chairman and the CEO should in principle be separate persons, to ensure an appropriate balance of power, increased accountability and greater capacity of the Board for independent decision making. The division of responsibilities between the Chairman and the CEO should be clearly established, set out in writing and agreed by the Board. In addition, the Board should disclose the relationship between the Chairman and the CEO if they are immediate family members.  
3.2 The guidelines set out the role of the Board Chairman.  
3.3 Every company should appoint an independent director to be the lead independent director where:  
(a) The Chairman and the CEO is the same person  
(b) The Chairman and the CEO are immediate family members  
(c) The Chairman is part of the management team, or  
(d) The Chairman is not an independent director.  
The lead independent director (if appointed) should be available to shareholders where they have concerns and for which contact through the normal channels of the Chairman, the CEO or the chief financial officer (or equivalent) (the ‘CFO’) has failed to resolve or is inappropriate.  
3.4 Led by the lead independent director, the independent directors should meet periodically without the presence of the other directors, and the lead independent director should provide feedback to the Chairman after such meetings. |

The UK and Hong Kong Codes also have requirements for the separation of the roles of Board Chairman and CEO.

3.4 Board membership

| Principle 4 | There should be a formal and transparent process for the appointment and re-appointment of directors to the Board. |
| Guidelines | 4.1 The Board should establish a Nominating Committee (NC) to make recommendations to the Board on all board appointments.  
The NC should comprise at least three directors, the majority of whom, including the NC Chairman, should be independent. The lead independent director, if any, should be a member of the NC.  
4.2 The guidelines set out the role of the NC. These include developing a process for evaluation of the performance of the Board and its individual directors and reviewing the training and professional development programmes for the Board.  
All directors should be required to submit themselves for re-nomination and re-election at least once every three years.  
4.3 The NC is charged with the responsibility of determining annually, and as and when circumstances require, if a director is independent… If the NC considers that a director who has one or more of the relationships mentioned therein can be considered independent, it shall provide its views to the Board for the Board's consideration. |
4.4 When a director has multiple board representations, they must ensure that sufficient time and attention is given to the affairs of each company. The NC should decide if a director is able to and has been adequately carrying out their duties as a director of the company, taking into consideration the director's number of listed company board representations and other principal commitments… The Board should determine the maximum number of listed company board representations which any director may hold, and disclose this in the company's Annual Report.

4.5 Boards should generally avoid approving the appointment of alternate directors. Alternate directors should only be appointed for limited periods in exceptional cases such as when a director has a medical emergency. As a general rule the Board should avoid appointing alternate directors.

4.7 Key information regarding directors…should be disclosed in the company's Annual Report.

The Hong Kong Code includes similar provisions to the Singapore Code. There should be a formal and transparent procedure for the appointment of new directors and plans for orderly succession for appointments. All directors should be subject to re-election at regular intervals. Every director should be subject to retirement by rotation at least once every three years.

The UK Code principles and provisions are similar but there are some differences. The procedure for new Board appointments should be formal, transparent and rigorous. Appointments should be made ‘on merit, against objective criteria’. Not surprisingly since listed companies in the UK are not usually family-owned and controlled, the appointment to the Board of a close family member of an existing Board member would be considered unacceptable.

The UK Code states that there should be a Nomination Committee comprising a majority of independent Non-Executive Directors, and that the Board Chairman may also chair the Nomination Committee. However the Board Chairman and not the Nomination Committee is responsible for ensuring that there is an annual performance appraisal of the Board, its committees and individual directors. The UK has provisions for regular re-election of directors and in the largest listed companies, all directors should submit themselves for re-election each year at the Annual General Meeting.

3.5 Board performance

**Principle 5**

There should be a formal annual assessment of the effectiveness of the Board as a whole and its board committees and the contribution by each director to the effectiveness of the Board.

**Guidelines**

5.1 The Board should state in the company's Annual Report how the assessment of the Board, its board committees and each director has been conducted. If an external facilitator has been used, the Board should disclose in the company's Annual Report whether the external facilitator has any other connection with the company or any of its directors.

5.2 The NC should decide how the Board's performance may be evaluated and propose objective performance criteria. Such performance criteria, which allow for comparison with industry peers, should be approved by the Board and address how the Board has enhanced long-term shareholder value.

5.3 Individual evaluation should aim to assess whether each director continues to contribute effectively and demonstrate commitment to the role (including commitment of time for meetings of the Board and board committees, and any other duties). The Chairman should act on the results of the performance evaluation, and, in consultation with the NC, propose, where appropriate, new members to be appointed to the Board or seek the resignation of directors.
The Singapore Code does not specify how the performance review should be carried out; for example, who should evaluate the performance of the NC members.

The UK Code has similarities with the Singapore Code, except that it is less explicit about who should carry out the annual performance review. It simply states that the Board is responsible for undertaking the annual review. Large companies should use the services of external consultants for the performance review at least every three years. The independent directors, led by the senior independent director, should carry out the performance review of the Board Chairman.

The Hong Kong Code suggests that the Board should conduct a regular evaluation of its performance, but this is only recommended best practice and it is not a provision of the Code.

### 3.6 Access to information

<table>
<thead>
<tr>
<th>Principle 6</th>
<th>In order to fulfil their responsibilities, directors should be provided with complete, adequate and timely information prior to board meetings and on an on-going basis so as to enable them to make informed decisions to discharge their duties and responsibilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines</td>
<td>6.1 Management has an obligation to supply the Board with complete, adequate information in a timely manner. Relying purely on what is volunteered by Management is unlikely to be enough in all circumstances and further enquiries may be required if the particular director is to fulfil his duties properly. Hence, the Board should have separate and independent access to Management. Directors are entitled to request from Management and should be provided with such additional information as needed to make informed decisions. Management shall provide the same in a timely manner.</td>
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<td></td>
<td>6.2 Information provided should include board papers and related materials, background or explanatory information relating to matters to be brought before the Board, and copies of disclosure documents, budgets, forecasts and monthly internal financial statements. In respect of budgets, any material variance between the projections and actual results should also be disclosed and explained.</td>
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<tr>
<td></td>
<td>6.3 Directors should have separate and independent access to the company secretary. The role of the company secretary should be clearly defined and should include responsibility for ensuring that board procedures are followed and that applicable rules and regulations are complied with. Under the direction of the Chairman, the company secretary’s responsibilities include ensuring good information flows within the Board and its board committees and between Management and non-executive directors, advising the Board on all governance matters, as well as facilitating orientation and assisting with professional development as required. The company secretary should attend all board meetings.</td>
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<td></td>
<td>6.4 The appointment and removal of the company secretary should be a matter for the Board as a whole.</td>
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<tr>
<td></td>
<td>6.5 The Board should have a procedure for directors, either individually or as a group, in the furtherance of their duties, to take independent professional advice, if necessary, and at the company’s expense.</td>
</tr>
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</table>

### FURTHER READING

Section 171 (1AA) of the Companies Act sets out the requirements for the experience and qualifications required of a company secretary.

The provisions of the Hong Kong Code and the UK Code are very similar to the Singapore Code with regard to the provision of information to directors. The Hong Kong Code has a separate section on the role of the company secretary, who is seen as a source of information for directors, and in particular Non-Executive Directors, and advice to the Board on matters such as corporate governance and compliance with major regulations.
4 Remuneration matters

SECTION INTRODUCTION

This section describes the principles and guidelines in the Code relating to remuneration for directors and senior executives.

The Singapore Code contains three principles on matters relating to remuneration. Remuneration of directors and senior executives is often a contentious issue. There is a view that without suitable controls and restraints, directors and senior executives are able to secure high levels of remuneration for themselves. High executive remuneration reduces profits and so reduces the returns to the company's owners.

4.1 Procedures for developing remuneration policies

<table>
<thead>
<tr>
<th>Principle 7</th>
<th>There should be a formal and transparent procedure for developing policy on executive remuneration and for fixing the remuneration packages of individual directors. No director should be involved in deciding his own remuneration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines</td>
<td>7.1 The Board should establish a Remuneration Committee (RC) with written terms of reference which clearly set out its authority and duties. The RC should comprise at least three directors, the majority of whom, including the RC Chairman, should be independent. All of the members of the RC should be non-executive directors. This is to minimise the risk of any potential conflict of interest.</td>
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<tr>
<td></td>
<td>7.2 The RC should review and recommend to the Board a general framework of remuneration for the Board and key management personnel. The RC should also review and recommend to the Board the specific remuneration packages for each director as well as for the key management personnel. The RC's recommendations should be submitted for endorsement by the entire Board.</td>
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<tr>
<td></td>
<td>7.3 If necessary, the RC should seek expert advice inside and/or outside the company on remuneration of all directors. The RC should ensure that existing relationships, if any, between the company and its appointed remuneration consultants will not affect the independence and objectivity of the remuneration consultants.</td>
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<td>7.4 The RC should review the company's obligations arising in the event of termination of the executive directors' and key management personnel's contracts of service, to ensure that such contracts of service contain fair and reasonable termination clauses which are not overly generous. The RC should aim to be fair and avoid rewarding poor performance.</td>
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</table>

In Hong Kong, the requirement for listed companies to have a remuneration committee (consisting of a majority of independent Non-Executive Directors) is a Listing Rule rather than a provision in the corporate governance code. In the UK Code, the requirement is that the remuneration committee should consist entirely of independent Non-Executive Directors.

In other respects, the Hong Kong and UK Code are similar to the Singapore Code.
4.2 Level and mix of remuneration

**Principle 8**
The level and structure of remuneration should be aligned with the long-term interest and risk policies of the company, and should be appropriate to attract, retain and motivate (a) the directors to provide good stewardship of the company, and (b) key management personnel to successfully manage the company. However, companies should avoid paying more than is necessary for this purpose.

**Guidelines**
8.1 A significant and appropriate proportion of executive directors' and key management personnel's remuneration should be structured so as to link rewards to corporate and individual performance. Such performance-related remuneration should be aligned with the interests of shareholders and promote the long-term success of the company. It should take account of the risk policies of the company, be symmetric with risk outcomes and be sensitive to the time horizon of risks.

There should be appropriate and meaningful measures for the purpose of assessing executive directors' and key management personnel's performance.

8.2 Long-term incentive schemes are generally encouraged for executive directors and key management personnel. The RC should review whether executive directors and key management personnel should be eligible for benefits under long-term incentive schemes. The costs and benefits of long-term incentive schemes should be carefully evaluated. In normal circumstances, offers of shares or grants of options or other forms of deferred remuneration should vest over a period of time. The use of vesting schedules, whereby only a portion of the benefits can be exercised each year, is also strongly encouraged. Executive directors and key management personnel should be encouraged to hold their shares beyond the vesting period, subject to the need to finance any cost of acquiring the shares and associated tax liability.

8.3 The remuneration of non-executive directors should be appropriate to the level of contribution, taking into account factors such as effort and time spent, and responsibilities of the directors. Non-executive directors should not be over-compensated to the extent that their independence may be compromised. The RC should also consider implementing schemes to encourage non-executive directors to hold shares in the company so as to better align the interests of such non-executive directors with the interests of shareholders.

8.4 Companies are encouraged to consider the use of contractual provisions to allow the company to reclaim incentive components of remuneration from executive directors and key management personnel in exceptional circumstances of misstatement of financial results, or of misconduct resulting in financial loss to the company.

The provisions of the UK Code are similar to the Singapore Code. A principle of the UK Code is that a 'significant proportion' of the remuneration of executive directors should be structured so as to link reward to corporate and individual performance. A schedule (appendix) to the UK Code provides detailed guidance on the design of performance-related remuneration for executive directors: this includes the guidance that remuneration should be 'compatible with risk policies and systems'.

The Hong Kong Code suggests that a significant proportion of executive directors' remuneration should link rewards to corporate and individual performance. However this is currently recommended best practice, and not a provision of the Code. Hong Kong has not yet suggested that remuneration should be linked to risk policies as well as to other aspects of performance, such as profit.

**Question 11.1**
Repayment of cash bonus

Just over one year ago the Chief Executive Officer (CEO) of a listed company (and also a Board director) was paid a large cash bonus on the basis of excellent reported performance by the company in the previous financial year. This year, it has been discovered that the accounts were misstated, the reported
profit was incorrect and that the company had only made a small profit in the year. The company's major shareholder is demanding that the CEO should be told to repay the bonus that was wrongly paid. So far the CEO has refused to do so.

**Required**

Explain whether the company has the right to demand repayment of the cash bonus from the CEO, and what measures can be taken to try to deal with the problem and minimise the risk of it happening again.

### 4.3 Disclosure on remuneration

<table>
<thead>
<tr>
<th><strong>Principle 9</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A company should provide clear disclosures in the annual report of its remuneration policies, level and mix of remuneration, and the procedure for setting remuneration. These disclosures should enable investors to understand the link between remuneration paid to directors and key management personnel and performance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Guidelines</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1 The guidelines include a requirement for the company to provide an annual remuneration report to shareholders, either in the annual report of the directors or issued as an annexe to the annual report. The report should provide information about the remuneration of the directors, the CEO and at least the top five key managers who are not also directors or CEO of the company. This report should also include the total amount of any termination, retirement or post-employment benefits paid to these individuals.</td>
</tr>
</tbody>
</table>

| 9.2 The company should fully disclose the remuneration of each individual director and the CEO on a named basis: the figures may be rounded to the nearest S$1,000. There should also be a breakdown of the remuneration of each of these individuals, in percentage or dollar terms, into the component elements of fixed salary, performance-related income or bonuses, long-term incentives, benefits in kind, share options granted, share-based incentives and awards, and other long-term incentives. |

| 9.3 The company should name and disclose the remuneration details of for at least the top five senior executives who are not Board members or the CEO, in bands of S$250,000. There should be a similar breakdown of remuneration, in percentage or dollar terms, the same as for the directors and CEO (see above). As best practice, companies should disclose fully the remuneration of these top management personnel. The company should also disclose the aggregate total remuneration paid to these top management personnel. |

| 9.4 The annual remuneration report should also disclose details of remuneration to employees who are immediate family members of a director or the CEO, if their remuneration during the year exceeded S$50,000. This should be done on a named basis, indicating the employee's relationship with the relevant director or CEO. Remuneration should be disclosed in incremental bands of S$50,000. |

| 9.5 The remuneration report should include details of all employee share schemes, to enable shareholders to assess the benefits and potential costs of the schemes to the company. |

| 9.6 The report should also disclose information about the link between the remuneration paid to executive directors and key management personnel, and performance (What are the performance conditions to which short-term and long-term incentive schemes are subject, why these performance conditions were chosen, and a statement whether these performance conditions are met. |
The requirements of the Code of Corporate Governance for disclosures on remuneration are quite detailed. They are summarised in the following table, to assist with learning.

Remuneration disclosures summarised

General disclosures

Remuneration policies, level and mix of remuneration, procedures for setting remuneration.
Performance conditions to qualify for short-term or long-term incentives, and whether these performance conditions are met.

<table>
<thead>
<tr>
<th>Directors and CEO</th>
<th>Top five key management personnel other than directors and CEO</th>
<th>All of these individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remuneration of each individual on a named basis</td>
<td>Total remuneration of all five</td>
<td>Total amount of termination, retirement or post-employment benefits that may be granted</td>
</tr>
<tr>
<td>Analysed in % terms or in money terms between fixed salary, performance related bonus, share-based incentives etc</td>
<td>On a named basis, remuneration to be disclosed in bands of S$250,000</td>
<td></td>
</tr>
<tr>
<td>Remuneration of immediate family members whose remuneration exceeded S$50,000, on a named basis, in bands of S$50,000. Bands only need be shown, not actual remuneration amounts</td>
<td>Analysis in % or money terms of each individual's remuneration, same as for directors and CEO</td>
<td>As best practice (but not required) disclose actual remuneration of each of the five individuals</td>
</tr>
</tbody>
</table>

5 Accountability and audit

SECTION INTRODUCTION

This section describes the principles and guidelines in the Code relating to accountability and audit.

The Singapore Code contains four principles on matters relating to accountability and audit. Risk management, the internal control system, internal controls and internal audit are dealt with in detail in the following chapters.
5.1 Accountability

<table>
<thead>
<tr>
<th>Principle 10</th>
<th>The Board should present a balanced and understandable assessment of the company's performance, position and prospects.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines 10.1 and 10.2</td>
<td>The Board should take adequate steps to ensure compliance with legal and regulatory requirements relating to disclosures about the company's performance, position and prospects. This includes interim financial statements and other reports, as well as the annual report and accounts.</td>
</tr>
<tr>
<td>10.3</td>
<td>Management should provide all members of the Board with management accounts, on a monthly basis and from time to time as the board may require the information, to enable the Board to make an informed assessment of the company's performance, position and prospects.</td>
</tr>
</tbody>
</table>

The Hong Kong Code includes similar requirements. The UK Code does not include any provision relating to management accounting information for the Board, although this is normal practice in the UK.

The UK Code, as amended in 2016, requires the directors to state in the annual report whether they have a ‘reasonable expectation’ that the company will be able to continue in operation and meet its liabilities as they fall due. This is not the same as the going concern statement required in financial reporting, and is expected to cover a forward period considerably longer than the next 12 months. The statement should include ‘supporting assumptions and qualifications as necessary’.

5.2 Risk management and internal controls

<table>
<thead>
<tr>
<th>Principle 11</th>
<th>The Board is responsible for the governance of risk. The Board should ensure that management maintains a sound system of risk management and internal controls to safeguard shareholders' interests and the company's assets, and should determine the nature and extent of the significant risks which the Board is willing to take in achieving its strategic objectives. (This is known as deciding the 'risk appetite' of the company).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines 11.1</td>
<td>The Board should decide the company levels of risk tolerance and should oversee management in their design, implementation and monitoring of the risk management and internal control systems.</td>
</tr>
<tr>
<td>11.2</td>
<td>At least annually, the Board should review the effectiveness and adequacy of the company's risk management and internal control systems, including financial, operational, compliance and information technology controls.</td>
</tr>
<tr>
<td>11.3</td>
<td>The Board should comment on the adequacy and effectiveness of the internal controls, including financial, operational, compliance and information technology controls, and risk management systems, in the company's Annual Report. The Board's commentary should include information needed by stakeholders to make an informed assessment of the company's internal control and risk management systems.</td>
</tr>
<tr>
<td>The Board should also comment in the company's Annual Report on whether it has received assurance from the CEO and the CFO: (a) That the financial records have been properly maintained and the financial statements give a true and fair view of the company's operations and finances; and (b) Regarding the effectiveness of the company's risk management and internal control systems.</td>
<td></td>
</tr>
<tr>
<td>11.4</td>
<td>The Board may establish a separate Risk Committee (a committee of the Board) to help with monitoring the company's risk management framework and policies.</td>
</tr>
</tbody>
</table>

The Hong Kong Code and UK Code contain similar provisions to the Singapore Code, with the exception that neither of them mentions information technology controls as a separate classification of internal controls.
### 5.3 Audit Committee

The Singapore Code includes guidelines relating to the Audit Committee. Some of these overlap the legal requirements of the *Companies Act*.

<table>
<thead>
<tr>
<th>Principle</th>
<th>The Board should establish an Audit Committee (‘AC’) with written terms of reference which clearly set out its authority and duties.</th>
</tr>
</thead>
</table>
| Guidelines | 12.1 The AC should comprise at least three directors, the majority of whom, including the AC Chairman, should be independent. All of the members of the AC should be non-executive directors. The Board should disclose in the company's Annual Report the names of the members of the AC and the key terms of reference of the AC, explaining its role and the authority delegated to it by the Board.  
12.2 The Board should ensure that the members of the AC are appropriately qualified to discharge their responsibilities. At least two members, including the AC Chairman, should have recent and relevant accounting or related financial management expertise or experience, as the Board interprets such qualification in its business judgement.  
12.3 The AC should have explicit authority to investigate any matter within its terms of reference, full access to and co-operation by Management and full discretion to invite any director or executive officer to attend its meetings, and reasonable resources to enable it to discharge its functions properly.  
12.4 The duties of the AC should include:  
(a) Reviewing the significant financial reporting issues and judgements so as to ensure the integrity of the financial statements of the company and any announcements relating to the company's financial performance;  
(b) Reviewing and reporting to the Board at least annually the adequacy and effectiveness of the company's internal controls, including financial, operational, compliance and information technology controls (such review can be carried out internally or with the assistance of any competent third parties);  
(c) Reviewing the effectiveness of the company's internal audit function;  
(d) Reviewing the scope and results of the external audit, and the independence and objectivity of the external auditors; and  
(e) Making recommendations to the Board on the proposals to the shareholders on the appointment, re-appointment and removal of the external auditors, and approving the remuneration and terms of engagement of the external auditors.  
12.5 The AC should meet (a) with the external auditors, and (b) with the internal auditors, in each case without the presence of Management, at least annually.  
12.6 The AC should review the independence of the external auditors annually and should state (a) the aggregate amount of fees paid to the external auditors for that financial year, and (b) a breakdown of the fees paid in total for audit and non-audit services respectively, or an appropriate negative statement, in the company's Annual Report. Where the external auditors also supply a substantial volume of non-audit services to the company, the AC should keep the nature and extent of such services under review, seeking to maintain objectivity.  
12.7 The AC should review the policy and arrangements by which staff of the company and any other persons may, in confidence, raise concerns about possible improprieties in matters of financial reporting or other matters. The AC’s objective should be to ensure that arrangements are in place for such concerns to be raised and independently investigated, and for appropriate follow-up action to be taken. The existence of a whistle-blowing policy should be disclosed in the company's Annual Report, and procedures for raising such concerns should be publicly disclosed as appropriate. |
12.8 The Board should disclose a summary of all the AC's activities in the company's Annual Report. The Board should also disclose in the company's Annual Report measures taken by the AC members to keep abreast of changes to accounting standards and issues which have a direct impact on financial statements.

12.9 A former partner or director of the company's existing auditing firm or auditing corporation should not act as a member of the company's AC:
(a) Within a period of 12 months commencing on the date of his ceasing to be a partner of the auditing firm or director of the auditing corporation; and in any case
(b) For as long as they have any financial interest in the auditing firm or auditing corporation.

The Hong Kong and UK Codes have similar provisions, with the exception that the UK Code requires the Audit Committee (AC) to consist entirely of independent Non-Executive Directors.

The requirement in the Singapore Code for disclosure of the measures taken by AC members to keep abreast of changes in financial reporting is unique to the Singapore Code, suggesting that there may be particular concerns about insufficient awareness and understanding by AC members. The 2012 version of the Code requires the AC Chairman to have recent and relevant accounting or financial management experience: in the 2005 version of the Code this was not a specific requirement.

**Question 11.2**

When Blup Co (a listed company involved in water supply) established an internal audit function the board approached an external consultant. She explained that internal audit is especially important in highly regulated industries but that it could also offer benefits to companies regardless of the industry context. In particular, one of the essential functions of internal audit is to provide assurance that the internal controls which underpin financial reporting are effective.

She was particularly keen to talk to John Xu, the head of the audit committee. John explained that because Blup Co was a water supply company and was highly regulated, he considered it important that all of the members of the audit committee were professional water engineers so that they fully understood the industry. All three members of the audit committee were non-executive directors and all were recently retired members of the Blup executive board.

Explain why Blup's audit committee is responsible for overseeing the internal audit function.

**5.4 Internal audit**

**Principle 13**
The company should establish an effective internal audit function that is adequately resourced and independent of the activities that it audits.

**Guidelines**

13.1 The internal auditor's primary line of reporting should be to the AC Chairman, but the internal auditor would also report administratively to the CEO.

The AC approves the hiring, removal, evaluation and compensation of the head of the internal audit function, or the accounting firm or corporation to which the internal audit function is outsourced. The internal auditors should have 'unfettered access' to all the company's documents, records, properties and personnel, including the AC.

13.2 and 13.3 The internal audit function should be staffed with individuals with the relevant qualifications and experience. The internal audit function should also be adequately resourced.

13.4 The internal auditor should carry out its function according to the standards set by nationally or internationally recognised professional bodies including the Standards for the Professional Practice of Internal Auditing set by The Institute of Internal Auditors.

13.5 The AC should, at least annually, review the adequacy and effectiveness of the internal audit function.
The Singapore Code gives more emphasis to internal audit than either Hong Kong or the UK. In Singapore there is a requirement in the Code for companies to have an internal audit function, which may be in-house or outsourced. There is no such requirement in either Hong Kong or the UK, where companies can choose whether or not to have an internal audit function.

The Hong Kong Code includes a provision that where an internal audit function exists, a role of the AC should be to:

- Ensure co-ordination between the internal and external auditors
- Ensure that the internal audit function is adequately resourced and has appropriate standing within the issuer, and
- Review and monitor the effectiveness of the internal audit function.

The Hong Kong Code also states that companies without an internal audit function should review the need for one on an annual basis and should disclose the outcome of this review in its Corporate Governance Report. The AC does not necessarily have the responsibility for carrying out this review.

The UK Code states that the AC should monitor and review the effectiveness of internal audit activities. Where there is no internal audit function, the AC should consider annually whether there is a need for one and make a recommendation to the Board. The reasons for the absence of an internal audit function should be explained in the annual report.

### 6 Shareholder rights and responsibilities

**SECTION INTRODUCTION**

This section describes the principles and guidelines in the Code relating to shareholder rights and responsibilities.

The Singapore Code contains three principles on matters relating to shareholder rights and responsibilities.

#### 6.1 Shareholder rights

<table>
<thead>
<tr>
<th>Principle</th>
<th>Companies should treat all shareholders fairly and equitably and should protect and facilitate the exercise of shareholder rights.</th>
</tr>
</thead>
</table>
| Guidelines | 14.1 Shareholders have the right to be sufficiently informed of changes in the company or its business which would be likely to affect the share price materially.  
14.2 Companies should ensure that shareholders have the opportunity to participate effectively in and vote at general meetings of shareholders.  
14.3 Where shares are held by nominee or custody service organisations, they should be allowed to appoint more than two proxies to attend meetings of shareholders. This is to enable shareholders who hold shares through the nominee or custody organisation to attend and participate at general meetings as a proxy. |

This principle and these guidelines were included in the 2012 version of the Code for the first time. The Hong Kong and UK Codes do not have comparable guidelines or provisions. In the UK, there is more concern with ensuring that the Board listens to the opinions of its shareholders, rather than ensuring that shareholders are kept sufficiently informed by the company.

The multiple proxies provision in the Singapore Code has been reinforced by an amendment to the *Companies Act*, introduced by the *Companies (Amendment) Act 2014*. The revision to Section 181 of the *Companies Act* states:

'a member of a company...who is a relevant intermediary may appoint more than 2 proxies in relation to a meeting to exercise all or any of his [her] rights to attend and to speak and vote at the meeting, but each proxy must be appointed to exercise the rights attached to a different share or shares held by him [her] (which number and class of shares shall be specified).’
The amended *Companies Act* therefore gives indirect investors the same rights as direct investors in respect of attendance at shareholders' meetings. Nominee companies and custodian banks will be allowed to appoint more than two proxies so that indirect investors can be appointed as proxies to participate in shareholders' meetings. Each proxy will have the right to vote on a show of hands, in addition to voting on a poll.

The MOF, in accepting this recommended change, commented that it will provide for more active participation at general meetings by indirect investors, and help to strengthen the culture of corporate governance.

In the UK, even stronger measures have been introduced to give shareholders more rights. The UK *Companies Act* was amended to give shareholders in quoted companies the right, at least once every three years, to have a binding vote on the company's forward-looking remuneration policy. The company cannot then breach this policy in any remuneration agreement with a director or senior executive.

### 6.2 Communication with shareholders

<table>
<thead>
<tr>
<th>Principle 15</th>
<th>Companies should actively engage their shareholders and put in place an investor relations policy to promote regular, effective and fair communication with shareholders.</th>
</tr>
</thead>
</table>
| Guidelines   | 15.1 Companies should devise an investor relations policy to convey information regularly to shareholders. Information should be as descriptive and detailed as possible, and companies should avoid ‘boilerplate’ disclosures.  
15.2 Companies should disclose information through SGXNET (the announcements service of the Singapore Exchange) and other information channels, including their website.  
15.3 The Board should establish and maintain regular dialogue with shareholders, to gather their views or address their concerns.  
15.4 The Board should state in the company's Annual Report the steps it has taken to solicit and understand the views of the shareholders eg through analyst briefings, investor roadshows or Investors' Day briefings.  
15.5 Companies are encouraged to have a policy on the payment of dividends and to communicate it to shareholders. Where dividends are not paid, companies should disclose their reasons. |

The Hong Kong Code states that the Board should be responsible for maintaining an ongoing dialogue with shareholders and should use the annual general meetings or other general meetings to communicate with them and encourage their participation.

The UK Code states that the Board should discuss governance and strategy with major shareholders: but the definition of ‘major’ may mean holders of about 5% of the shares or even less. The Board is also required to take measures to ensure that the Board members listen to and understand the views and concerns of the shareholders.

The Hong Kong Code states that the Board should establish a shareholders' communication policy, which is similar to an investor relations policy. However, in the UK there is no requirement for an investor relations policy as a Code provision.

Neither Hong Kong nor the UK has a specific requirement for companies to provide disclosures about dividend policy.

The UK has a *Stewardship Code* as well as a Corporate Governance Code. This is a code for UK institutional investors, although non-UK institutional investors are also encouraged to adopt it. The Code establishes seven principles for institutional investors to apply when engaging with companies in which they invest. It covers areas such as dialogue, actions to deal with concerns and voting policy at general meetings. The UK view is that responsibility for communication between company and shareholders is two-way: both the company and shareholders should make efforts to communicate with each other.
A statement is attached to the Singapore Code on the role of shareholders in engaging with companies in which they invest. This is not part of the Code, but the statement encourages shareholders to seek a constructive relationship with their companies. They should attend general meetings and vote, and they should express their views (on matters such as governance) and their concerns to the Board. The statement adds: ‘Where appropriate, specific shareholder groups...are encouraged to consider adopting international best practices.

## Question 11.3

TQ Company recently went into administration. A group of shareholders have expressed the belief that it is the chairman, Heike Hoiku, who is primarily to blame for failing to hold senior management to account for a string of strategic errors. In particular, they are angry that Miss Hoiku did not challenge the chief executive Rupert Smith, who spent long periods of time travelling on business whilst less experienced directors struggled with implementing strategy at the company headquarters.

Some shareholders wrote a letter to Miss Hoiku last year demanding that she hold Mr Smith to account for a number of strategic errors, and asking her to explain why she had not warned of the problems in her statement in the annual report earlier in the year.

Some of the shareholders believe that Mr Smith may have performed better in his role had his reward package been better designed. There was previously a remuneration committee at TQ but when two of its four non-executive members left the company, they were not replaced and the committee became ineffective. Mr Smith was then able to propose his own remuneration package and Miss Hoiku did not feel able to refuse him.

What are the important areas that the Chairman's statement should address in its communication with shareholders?

### 6.3 Conduct of shareholder meetings

<table>
<thead>
<tr>
<th>Principle 16</th>
<th>Companies should encourage greater shareholder participation at general meetings of shareholders, and should allow shareholders the opportunity to present their views on matters affecting the company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines</td>
<td>16.1 The articles of association should allow for proxy voting by shareholders who do not attend a meeting.</td>
</tr>
<tr>
<td></td>
<td>16.2 There should be separate resolutions at general meetings on each separate issue. Several issues should not be ‘bundled together’ into a single resolution to be voted on collectively.</td>
</tr>
<tr>
<td></td>
<td>16.3 All directors, and particularly the Board Chairman and Chairmen of the AC, NC and RC should be present at general meetings.</td>
</tr>
<tr>
<td></td>
<td>16.4 Companies should prepare minutes of general meetings that include substantial and relevant comments or queries from shareholders relating to the agenda of the meeting, and responses from the Board and Management, and to make these minutes available to shareholders upon their request.</td>
</tr>
<tr>
<td></td>
<td>16.5 Companies should put all resolutions to vote by poll and make an announcement of the detailed results showing the number of votes cast for and against each resolution and the respective percentages. Companies are encouraged to employ electronic polling.</td>
</tr>
</tbody>
</table>

This principle and these guidelines were included in the 2012 version of the Code for the first time. Hong Kong and the UK have similar provisions, although without a specific reference to electronic voting.

The UK Code also includes a provision that when there is a significant vote against a proposal by the board, at any general meeting, the company must explain what actions it intends to take to understand the reasons behind the vote result.
SECTION SUMMARY

This section sets out the principles and provisions of Singapore's Code of Corporate Governance 2012 and makes comparisons with the codes of corporate governance in Hong Kong and the UK.

In many respects the Codes are similar and cover similar areas of governance, although there are differences. For example the UK places more emphasis on the need for an independent Board and Singapore gives more emphasis to disclosures to shareholders.

Emerging trends and current issues

As we have mentioned in previous chapters, the Corporate Governance Council (‘the Council’) published a consultation paper, in January 2018, describing its proposals to revise the Code of Corporate Governance and asking for feedback on them.

Although the detail may change following feedback on the consultation document, it seems very likely that a revised Code of Corporate Governance will be introduced in 2019.

The Council’s proposals reduce the number of Principles in the Code to 13 (down from 16) with these being supported by Provisions (rather than Guidelines). The Council has proposed that the Principles should be mandatory, although the Provisions will continue to apply on a ‘comply or explain’ basis.

Other key recommendations include:

- **Strengthening director independence**
  - By lowering the shareholding threshold from 10% to 5%
  - By incorporating the nine year rule on independent directors as a hard limit, or to subject the re-appointment of independent directors who have served beyond nine years to an annual vote to be approved by the shareholders

- **Enhancing Board composition and diversity**
  - The current guideline that at least one-third of the Board comprises independent directors should be made mandatory
  - The majority of the Board (instead of ‘half’ the Board) should comprise independent directors, where the Chairman is not independent
  - The majority of the Board should comprise directors who have no management or business relationships with the company
  - The Council has recommended adding ‘age’ as one of the aspects for companies to consider in relation to the diversify of their Board.

- **Remuneration**
  - The Council has recommended that companies should disclose the relationship between the remuneration (of directors and key executives) and value creation.
Chapter Roundup

Laws and regulations

Companies Act and Companies (Amendment) Act
Common Law
Securities and Futures Act 2001
Code of Corporate Governance 2012

Nominating Committee
Appointment of Directors
Directors Duties
Insider Trading
SGX
Voluntary

Comply and explain

Listing rules

16 principles For Boards

Supporting Guidelines

1: Board Matters
2: Remuneration
3: Audit/Accountability (including risk management)
4: Shareholders

Quick Quiz

1. What are the duties of directors, as set out in the Companies Act?
2. What are the two types of insider dealing offence?
3. Which body has responsibility for the Code of Corporate Governance?
4. What is the guidance in the Code of Corporate Governance on matters reserved for decision-making by the Board?
5. What is the requirement of the Code with regard to the proportion of Board members who should be independent directors?
6. Who is responsible for designing the arrangements for the annual performance review of the Board and its directors?
7. The annual remuneration report should also disclose details of remuneration to employees who are immediate family members of a director or the CEO, if their remuneration during the year exceeded S$______________?
8. What is the guidance in the Code of Corporate Governance on voting at shareholder meetings?
Answers to Quick Quiz

1. Directors must act honestly and exercise reasonable diligence in the discharge of their duties.
   - They are prohibited from making improper use of information that they have obtained by virtue of their position.
   - They are required to disclose any transactions or appointments to other offices which may create conflict of interests.

2. Dealing offence and communication offence. (Alternatively, offence committed by a connected person with price-sensitive information and offence committed by another person with price-sensitive information.)

3. Monetary Authority of Singapore (MAS).

4. Every company must prepare a document containing guidelines on matters that must be reserved for decision-making by the Board and giving clear directions to management on matters that require Board approval (guideline 1.5).

5. The basic rule is that at least one third of the Board members should be independent (guideline 2.1). However at least one half should be independent in certain circumstances, such as when the Chairman and CEO are the same person or connected family members, or when the Board Chairman is not independent (guideline 2.2).

6. The Nominating Committee (NC) (guideline 4.2(b) and 5.1)

7. S$50,000 (guideline 9.4)

8. There should be a poll on each separate resolution and the results of the poll should be announced. Companies are encouraged to use electronic voting (guideline 16.5).
11.1

The large bonus payment to the CEO was based on incorrect financial information. It is not clear who was responsible for producing the information and who was aware of the error before it was eventually discovered and revealed. The CEO would have been involved in the finalisation of the financial statements for the year in question, but he/she may not have been aware of the error. Even if he/she did know about the error, this may be difficult to ‘prove’.

The AC should initiate an investigation into why the incorrect financial information was produced. It should liaise with the RC about the findings of this investigation, and the two committees should work together to resolve the issues relating to the bonus payment.

The RC should be asked to check the details of the incentive arrangement with the CEO. This may include a provision that there should be some clawback, so that a cash bonus is repayable if it is subsequently discovered that the size of the bonus was calculated on incorrect figures. In the absence of a clawback term in the agreement, the CEO may be legally entitled to retain the bonus. If the incorrect financial information was produced in error rather than fraudulently, the Board may have to accept the situation that has occurred.

The Board Chairman or Chairman of the RC may need to use influence and persuasion, and ask the CEO to repay some or all of the bonus payment voluntarily. They could use arguments such as shareholder anger at the misreported profit figure and the excessive bonus payment. They might also suggest that unless the bonus is repaid, the CEO may lose the confidence of the rest of the Board, as well as the company's major shareholder. This could make it difficult for him/her to remain as CEO of the company. If the CEO is due to stand for re-election at the next AGM, the possibility of a shareholder vote against his/her re-election may also persuade the CEO to repay some or all of the money.

If the CEO will be standing for re-election as a director at the AGM, the matter is likely to be raised at the meeting. This may be an additional factor to discuss with the CEO.

The RC should also review whether the incorrect financial information has also resulted in inappropriate bonus payments to other senior executives. It should then try to deal with this problem in a similar way.

11.2

Objectives of internal audit

The audit committee is responsible for setting the objectives and terms of reference of internal audit. As directors on the full board, audit committee members will also be involved in establishing Blup’s strategic objectives. They therefore should be able to ensure that internal audit work is focused on areas that are important to the strategy of the company and that audit work concentrates on risks that threaten achievement of strategic aims.

Compliance requirements

The audit committee should also be able to ensure that sufficient internal audit attention is given to reviewing compliance with the regulations that the company faces. Here certainly the industry knowledge that audit committee members have should ensure that internal audit work is directed into the right areas.
Independence

Reporting to the audit committee and being able to communicate with the audit committee without executives being present helps maintain the independence of the internal audit function. Audit committee members have no executive responsibilities, and so audit committee members will have no self-interest in diverting internal audit's attention away from their area of the business. This should mean that internal audit is not compromised by pressure from operational management.

Authority

Reporting to the audit committee means that internal audit has authority delegated from the audit committee. This should give internal audit the power it needs to enforce its demands and obtain the access it requires to people and documents.

11.3 Accountability and independence

The Chairman's statement is a separate document in the accounts that enables the chairman to demonstrate that they are acting in the interests of shareholders. Their commentary can also demonstrate an independent view of the company's affairs, drawing attention to issues that the Chief Executive would prefer not to be raised.

Performance of Chairman

The statement can provide information about how the Chairman is exercising their role. This information, along with analysis of the quality and reliability of the other information in the statement, provides the shareholders with material to enable them to judge the performance of the Chairman.

Corporate governance

The Chairman's statement could have provided information to shareholders about how corporate governance was operating in the company. In particular it could have explained how Mr Smith was exercising his role and given more information on his work for the company. It could also have commented on the implications and consequences of the departure of the non-executive directors and the failure to replace them.

Wider information provision

The Chairman's statement could have included disclosures covering wider areas than those required by law or regulations. These could have given stakeholders a better idea of the environment within which TQ was operating and how it was responding. This should have enabled investors to carry out a more informed analysis of the strategies the company was pursuing. The Chairman's statement could also have been focused on future strategies and objectives.

Assurance about executive management

The Chairman's statement could have provided investors with further yardsticks to judge the performance of executive management, in particular the chief executive.
PART D
Internal Control and Risk Management
This chapter considers internal controls within an internal control system and the relevance of internal control systems and risk management systems for corporate governance.

There are various frameworks for internal control systems and associated risk management, but the most influential are the ones established by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). COSO’s Internal Control Framework (2013) is introduced in this chapter, and the following chapters will cover COSO’s approach to risk assessment and the different ways of responding to risk.

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1 Internal control systems

SECTION INTRODUCTION

This section explains the nature and objectives of an internal control system.
1.1 Elements of an internal control system

This chapter focuses on internal control activities, and the provision and communication of information about risk. Internal control systems should be designed to manage risks effectively.

An internal control system is made up of a large number of operational systems and monitoring systems within an organisation that should provide reasonable assurance to the Board of Directors and senior management that the objectives of the organisation are being achieved.

An internal control is a procedure or arrangement that is intended to:

(a) Prevent an operational error or failure, or a disruption to operational activities, or
(b) Reduce the risk that such an error, failure or disruption might occur, or
(c) Detect a failure when it does occur (and initiate control action).

Within an organisation there are many internal controls, both formal procedures and informal practices.

An internal control system is the system that comprises all the control processes within the organisation, as well as the related procedures for risk identification, risk measurement, responding to risk and monitoring the effectiveness of the control system.

1.2 The objectives of an internal control system

The main objectives of an internal control system are:

- **To ensure that business operations are conducted in an orderly and efficient way** and without disruption. This reduces the risk of unnecessary losses from errors or operational failures.
- **To ensure compliance with laws and regulations**, and in doing so reduce the risk of losses to the organisation as a result of breaking the law or failure to comply with regulatory requirements.
- **To safeguard the assets of the business**, and to ensure that they are used for their intended purpose. Also to protect assets against misuse, damage or theft.
- **To prevent and detect fraud**.
- **To ensure the accuracy and completeness of accounting information** produced by the organisation. Financial controls are needed to ensure that all transactions are properly recorded, that assets and liabilities are identified and properly valued and that all revenues and costs are accounted for.
- **To ensure the timely preparation of financial reports** for public disclosure and also management reports to support decision-making within the organisation.

1.3 Distinguishing between internal control and risk management

**IMPORTANT**

A distinction can be made between risk management and internal control, although in practice this distinction is not always clear.

(a) Risk management refers to the identification, measurement, assessment and monitoring of risk.

(b) Internal control refers to the measures implemented by management to mitigate risks.

In 1999 the Institute of Chartered Accountants in England and Wales published an influential report on internal control and risk management, called the **Turnbull Report** after the name of the Review Group Chairman. The report set out four inter-connected reasons why internal control and risk management systems are important for a company.
(a) An effective system of risk management and internal control is necessary in order to achieve the business objectives of the company and protect the interests of the shareholders. Safeguarding the assets of the company and protecting the interests of shareholders and other stakeholders are crucial responsibilities of the Board of Directors.

(b) Internal controls improve the efficiency and effectiveness of operations within the company (operational and financial controls), help to ensure the reliability of the company’s financial reporting systems (reporting controls) and help to ensure compliance with the law and other regulations (compliance controls).

(c) Financial and reporting controls are very important, to ensure that accurate accounting records are maintained, that financial reports are reliable and that risks of fraud are minimised.

(d) The risks that a company faces change continually as conditions in the business environment change. Profits are a reward for successful risk-taking, and a company must identify the changes in risks and respond to them. Successful response to changes in the character or significance of risks requires an effective risk management system, supported by suitable internal controls.

The Turnbull guidance and other guidance on control systems therefore places great emphasis on how control systems deal with risk. In the next few chapters therefore, much of our discussion will focus on risk.

1.3.1 Internal control and enterprise risk management

In 1992, COSO published its initial guidance on internal control, *Internal Control – Integrated Framework*. An updated version of the Internal Control Framework was issued in 2013 to reflect the increasingly global and complex nature of business activity, the impact of technological advances, the increasing complexity of rules and regulations, and stakeholder concerns over accountability in governance, risk management and the prevention of fraud. The 2013 framework is intended to cover the design, implementation and operation of internal control systems, along with the assessment of their effectiveness.


The existence of the two separate frameworks (Internal Control; and Enterprise Risk Management) highlights that internal control and enterprise risk management (ERM) are not interchangeable. As COSO emphasises in the 2017 Framework, ERM addresses more than internal control, and encompasses other topics such as strategy-setting, governance, communicating with stakeholders, and measuring performance.

Nonetheless, ERM and internal control are interconnected, and internal control is a very important part of ERM. One of the key questions in ERM is: What are the risks that could affect an organisation’s ability to achieve its strategy? Another key question is: What needs to go right in order to enable an organisation to achieve its strategy?

In this respect, ERM can help to provide a basis for developing controls. Having identified the key risks, or the key areas it needs to perform well to take advantage of an opportunity, an organisation can ensure appropriate controls are in place to manage the risks or support key processes.

Equally, organisations need to recognise that risk management and internal control are both important in creating and protecting shareholder value. When setting strategies and objectives, organisations need to consider the level of risk they want to take (risk management), but they also need to implement the necessary controls to enable them to pursue their objectives effectively (internal control).
PART D INTERNAL CONTROL AND RISK MANAGEMENT | 12: Internal control

SECTION SUMMARY

An internal control system includes all the many different internal controls that are applied within an internal organisation. An effective internal control system helps to achieve efficiency and effectiveness in the use of resources, so that the organisation is able to achieve its strategy and objectives.

2 Internal control and corporate governance

SECTION INTRODUCTION

Internal control is an integral part of corporate governance and the Board of Directors is responsible for the effectiveness of the internal control system.

Risk management and internal control are an integral part of corporate governance. The Board of Directors should seek to increase shareholder value, by improving profits and (in the case of listed companies) achieving an increase in the company’s share price. However policies for achieving higher profits may not result in higher shareholder value if they also expose the company to bigger risks.

The Code of Corporate Governance 2012 states that one of the roles of the Board of Directors is to ‘establish a framework of prudent and effective controls’ which enable risks to be assessed and managed. The Code also states as a principle that: ‘The Board is responsible for the governance of risk. The Board should ensure that Management maintains a sound system of risk management and internal controls to safeguard shareholders’ interests and the company’s assets…’

The Board of Directors has a monitoring and review function with regard to risk and controls, and it is responsible for ensuring the effectiveness of the risk management and internal control systems.

Management has the responsibility for the design and implementation of controls and should be accountable to the Board for the effectiveness of the control system. The Board has a monitoring and review function, but management has the executive responsibility.

SECTION SUMMARY

The Code of Corporate Governance 2012 states that the Board of Directors is responsible for overseeing management in the design, implementation and monitoring of the risk management and internal control systems, and for reviewing the adequacy and effectiveness of the company’s risk management and internal control systems.
3 Designing and implementing internal controls

SECTION INTRODUCTION

Management is responsible for designing and implementing the system of internal control. To do this they must design relevant internal controls to mitigate risks that could affect the organisation's ability to achieve its business objectives. Controls should be reviewed regularly to ensure that they remain adequate and appropriate to address changes in risks.

Designing and implementing new internal controls should be a continual process. New controls may be needed as new risks emerge or existing risks change, so that the controls currently in place become:

- Ineffective or insufficiently effective, or
- Redundant and no longer required.

Responsibilities for risks and the management of risks are spread throughout an organisation. Individual managers (or possibly risk management committees) should be given ownership of specific risks and should be accountable for how the risk is managed, including the implementation of adequate internal controls to address these risks.

Formal procedures are established for many routine operations and transactions, and controls are designed and built in to the procedures. The most appropriate controls for any particular procedure will depend on the nature of the procedure and the risks involved.

Some controls are designed and implemented as a general policy. Examples are policies on recruitment and training of staff, where objectives may be formulated for:

- The required qualifications for certain types of employee
- Recruitment procedures, such as vetting and interview arrangements
- Minimum training requirements and staff training objectives

An internal control framework in any organisation can only provide the directors with reasonable assurance that their objectives are reached, because of inherent limitations, including:

- The costs of control not outweighing their benefits; sometimes setting up an elaborate system of controls will be too costly when compared with the financial losses those controls may prevent
- Poor judgement in decision-making
- The potential for human error or fraud
- Collusion between employees
- The possibility of controls being bypassed or overridden by management or employees
- Controls being designed to cope with routine rather than non-routine transactions
- Controls being unable to cope with unforeseen circumstances
- Controls depending on the method of data processing – they should be independent of the method of data processing
- Controls not being updated over time

Question 12.1

A large college has several sites and employs hundreds of teaching staff. The college has recently discovered a serious fraud involving false billings for part-time teaching.

The fraud involved two members of staff. M is a clerk in the payroll office who is responsible for processing payments to part-time teaching staff. P is the head of the Business Studies department at the N campus. Part-time lecturers are required to complete a monthly claim form which lists the classes taught and the total hours claimed. These forms must be signed by their head of department, who sends
all signed forms to M. M checks that the class codes on the claim forms are valid, that hours have been
budgeted for those classes and inputs the information into the college's payroll package.

The college has a separate personnel department that is responsible for maintaining all personnel files.
Additions to the payroll must be made by a supervisor in the personnel office. The payroll package is
programmed to reject any claims for payment to employees whose personnel files are not present in the
system.

M had gained access to the personnel department supervisor's office by asking the college security officer
for the loan of a pass key because he had forgotten the key to his own office. M knew that the office
would be unoccupied that day because the supervisor was attending a wedding. M logged onto the
supervisor's computer terminal by guessing her password, which turned out to be the registration number
of the supervisor's car. M then added a fictitious part-time employee, who was allocated to the N campus
Business Studies department.

P then began making claims on behalf of the fictitious staff member and submitting them to M. M signed
off the forms and input them as normal. The claims resulted in a steady series of payments to a bank
account that had been opened by P. The proceeds of the fraud were shared equally between M and P.

The fraud was only discovered when the college wrote to every member of staff with a formal invitation to
the college's centenary celebration. The letter addressed to the fictitious lecturer was returned as
undeliverable and the personnel department became suspicious when they tried to contact this person in
order to update his contact details. By then M and P had been claiming for non-existent teaching for three
years without detection by external or internal audit.

Required

Evaluate the difficulties in implementing controls that would have prevented and detected this fraud.

---

**KEY POINT**

For your examination, instead of learning a long list of internal controls that may be
applied in different parts of an organisation, you should be able to assess the risk in
any situation that may be described in a case study question, and consider internal
controls that may be appropriate for mitigating the risk.

You should try to think in terms of:

- What is the risk, and how serious does it seem to be?
- What should be the aim of controls to mitigate the risk? Keep a clear
distinction in your mind between controls that are designed to reduce the risk
of an operational failure (preventive controls) and controls that are designed
to identify when an operational failure has occurred (detective controls).
- What control or controls are appropriate for achieving this aim?

Some suggestions are set out below.

### 3.1 Financial risks and controls

**Risks** that can affect many areas of the accounting systems and financial performance and position of a
company include the following:

- Failure to receive income that is due to the organisation
- Misappropriation of assets
- Deterioration in the value of assets due to poor maintenance
- Transactions being completed without adequate authorisation
- Inadequate value being received in exchange for payments made
• Deterioration in relationships with customers and suppliers
• Failure to record assets, liabilities and transactions correctly

Controls should be designed with the aim of reducing the main risks. The aim of a financial control may be to improve the likelihood that:

• Income is received fully and promptly
• Assets are safeguarded against loss in value, pilferage, damage or deterioration
• Transactions are properly authorised
• Transactions are completed successfully
• Sufficient value is received in return for payments made
• No errors are made in dealings with customers and suppliers
• Dealings with customers and suppliers are on the terms that have been agreed with them
• Assets, liabilities and transactions are recorded correctly

Adequate controls and risk management processes should exist, and managers should be able to assure themselves that their risk assessments and controls are adequate, including the process of having an independent internal audit.

Important financial controls in many areas will include:

• Segregation of duties to reduce fraud and increase checks
• Full documentation of assets, liabilities and transactions
• Matching of source documents and accounting records
• Reconciliation of information from different source documents
• Completeness checks over documents and accounting entries
• Physical security controls over assets
• Authorisation of payments and customer and supplier terms by senior staff
• Regular reviews of assets held
• Re-performance of calculations
• Confirmation of information by suppliers, customers and bank

Example

In 1995 Barings Bank collapsed as a result of unauthorised dealings in the financial markets by an employee in the bank’s Singapore office, the ‘rogue trader’ Nick Leeson. Leeson was sent to the Singapore office of the bank in 1992 as general manager. After his arrival in Singapore, he took examinations that qualified him to act as a trader for the bank on the SIMEX exchange.

Within a short period of time, Leeson established a position of considerable authority in the Singapore office of the bank. He began as its general manager but added to this the role of head trader; and he also became the effective head of ‘back office’ operation, with responsibility for recording and settlement of the market transactions of the bank.

There were controls ‘on paper’ setting limits to the trading positions that Barings traders were permitted to take in the market. Leeson ignored these; he was able to override the controls because of his dominant position in the Singapore office, and the failure of his superiors in London to monitor properly what he was doing.

He took unauthorised positions on both SIMEX and the Osaka exchange in Japan. His aim was to make spectacular profits from his market dealings, but he actually made losses which he ‘hid’ in an unused error account, account 88888. By hiding the losses, he was able to pretend to his superiors in London that he was actually making large profits – for which Leeson, his staff in Singapore and his superiors in London were all paid large bonuses.

The losses in the hidden account were £2 million at the end of 1992, but they rose to £23 million at the end of 1993 and £208 million at the end of 1994. Leeson financed the losses by borrowing money from other parts of the bank and by taking funds from client accounts (by falsifying documents and client records).
The problem could not be contained forever, and in February 1995 Leeson fled from Singapore. The scale of the losses soon became apparent, and the bank collapsed (but was subsequently rescued in a takeover).

**Required**

What does the collapse of Barings Bank teach about the need for strong internal controls?

**Solution**

The collapse of Barings Bank provides good examples of control failures, and these failures provide a useful guide to thinking about what controls should have been in place and why they were needed.

Controls are unlikely to be effective unless they are embedded within the organisation, and this requires a strong culture of risk awareness. This was absent from the bank in the 1990s. Leeson's superiors in London were happy to take the bonuses they earned because of the reported profits in Singapore, and had insufficient concern for the risks.

- There were severe weaknesses in organisation and supervision. Leeson acquired a position of excessive authority in Singapore, which should not have been permitted, and he was not properly supervised from London.
- There was no segregation of duties between the roles of general manager, head trader and responsibility for recording and settlement of trading transactions. Leeson was able to operate without anyone in the Singapore office acting as a check on what he did.
- He was able to cover his misdeeds by preparing false accounting records and false documents, and there were no procedural controls for accounting that prevented this from happening.
- He was able to borrow from other parts of the bank and take funds from client accounts, indicating that the system of approvals and authorisations was weak.
- The failures also suggest that the monitoring systems, and in particular external and internal auditing, were inadequate and failed to fulfil their function.

There were failures in both preventive and detective controls. Controls were insufficient to prevent Leeson from exposing the bank to risks from trading losses. They were also insufficient to detect the losses when they occurred.

### 3.2 Operational risks and controls

**Risks** that affect many areas of operations include the following:

- Assets, resources and facilities are not available when required
- Assets, resources and staff are not utilised efficiently
- Sales are lost because of operational difficulties or weaknesses, or by failures to respond to customer complaints
- Employees make mistakes
- Machines break down
- An IT system is damaged by a software virus. (The issue of cyber risk and cyber security is discussed in more detail in Chapter 14).
- Faulty products are despatched to customers
- Business is interrupted by external events
An operational control may have any of the following aims.

- Internal procedures are sufficient to meet risks and are complied with
- Operational functions are properly resourced
- Customer requirements are identified and taken into account
- Products are thoroughly tested before market launch
- Assets and facilities are available when required
- Assets and staff are managed effectively and efficiently
- Back-up resources and facilities are available in the event of disruption

Operational controls in many areas will include:

- Regular review of resources and assets to ensure they are available, adequate and have not been misappropriated
- Quality checks on resources and products
- Monitoring of staff performance and time spent on tasks
- Procedures such as competitive tendering and review of alternative supply sources to ensure resources are obtained at a reasonable price and quality
- Planning and forecasting procedures
- Comparison of actual results with plans
- Regular reports to senior management
- Security procedures for safeguarding assets
- Contingency plans and resources being available if the organisation suffers serious disruption

Question 12.2

Internal controls could be classified into financial controls, quantitative non-financial controls and qualitative non-financial controls. Quantitative controls are controls for which control limits or targets and actual performance can be measured quantitatively: qualitative controls are controls for which control targets and actual performance cannot be measured, although they can be assessed in other ways (often using observation and judgement).

Required

List four examples of each of these types of control.

3.3 Reacting to risk events and losses

An internal control system must include responsibilities and procedures for reacting to risk events, control failures and losses when they occur. These plans must be put into action.

(a) By giving individual managers ownership of particular risks, the identity of the manager responsible for dealing with any problem should be clear

(b) The manager responsible should be aware of what is expected from him or her in response to the risk event. There are three issues to consider:

- Dealing with the consequences of the risk event, and taking corrective action where appropriate
- Reviewing the reasons for any failure in internal controls and strengthening controls where required
- Reporting on events to a higher level of management
Example

The manager responsible for collection of trade receivables may receive a report that the number of overdue payments from customers has doubled from the previous month.

(a) Deal with the problem. The manager should be aware that action is needed to speed up collections, such as contacting customers to ask for payment, sending out warning letters or putting seriously overdue payments into the hands of a debt collection agency.

(b) Review the failure in control. The manager should review the internal controls that are in place for ensuring that customers pay on time, to establish why the controls failed. New controls or improvements in existing controls should be considered.

(c) Report the problem to a higher level of management, and accept responsibility for the control failure.

(d) Determine whether the risk tolerance level should be increased.

(e) Review and monitor the steps taken to correct the problem, to check that they work.

SECTION SUMMARY

This section has described operational risks and the design and implementation of internal controls to deal with them.

4 The COSO Internal Control Framework 2013

SECTION INTRODUCTION

This section introduces the structure of the 2013 COSO Internal Control Framework and explains its ‘Control Environment’ component.

Unless otherwise specified, references in this text to the ‘COSO Framework’ refer to the 2013 Internal Control Framework.

4.1 The management of internal controls

The Committee of Sponsoring Organisations of the Treadway Commission (COSO) Internal Control Framework provides guidance for organisations to help them develop systems of internal control that mitigate risk to acceptable levels, support sound decision-making and governance within the organisation, and enhance the likelihood of the organisation successfully achieving its objectives and adapting to changes in its environment.

The COSO Framework is based around the following five components of internal control.

- Control environment
- Risk assessment
- Control activities
COSO defines internal control as follows:

'Internal control is a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance.'

From this definition, we can see that internal control has the following characteristics.

(a) It is a **process**, a means to an end, which should ideally be intertwined with existing operations and exist for fundamental business reasons.

(b) It is operated by **people at every level** of the organisation and is not just paperwork. It provides a mechanism for helping people to understand risk, their responsibilities and levels of authority.

(c) It is applied in **strategy setting**, with management considering the risks in alternative strategies.

(d) It is applied **across the enterprise**. This means it takes into account activities at all levels of the organisation, from enterprise-level activities such as strategic planning and resource allocation, to business unit activities and business processes. It includes taking an entity-level portfolio view of risk. Each unit manager assesses the risk for their unit. Senior management ultimately consider these unit risks and also **interrelated risks**. Ultimately they will assess whether the overall risk portfolio is consistent with the organisation's risk appetite.

(e) It is designed to **identify events** potentially affecting the entity and manage risk within its **risk appetite**, the amount of risk it is prepared to accept in pursuit of value. The risk appetite should be aligned with the desired return from a strategy.

(f) It provides **reasonable assurance** to an entity's management and board. Assurance can at best be reasonable since risk relates to the uncertain future.

(g) It is geared to the **achievement of objectives** in a number of categories, including **supporting** the **organisation's mission**, making **effective and efficient use** of the **organisation's resources**, ensuring that internal and external **financial and non-financial reporting is reliable**, and **complying** with applicable **laws and regulations**.

Because these characteristics are broadly defined, they can be applied across different types of organisations, industries and sectors. Whatever the organisation, the framework focuses on **achievement of objectives**.

### 4.2 The structure of the COSO Internal Control Framework

The COSO Internal Control Framework contains five interrelated internal control components, and it emphasises the point that all five internal control components need to be **'present and functioning'** – where 'present' refers to the design and implementation of the internal control system and 'functioning' means that it is operating effectively – in order for management to be able to conclude that the internal control environment is effective.
These components support the organisation as it seeks to achieve its objectives, and each one will be covered in this and the following chapters as indicated in the table below.

<table>
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<tr>
<th>Component</th>
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<tr>
<td><strong>Control Environment</strong> (This chapter)</td>
<td>This covers the tone of an organisation, and sets the basis for how risk is viewed and addressed by an organisation's people, including risk management philosophy and risk appetite, integrity and ethical values, and the environment in which they operate. The board's <strong>attitude, participation and operating style</strong> will be a key factor in determining the <strong>strength</strong> of the control environment. An unbalanced board, lacking appropriate technical knowledge and experience, diversity and strong, independent voices is unlikely to set the right tone. This component also covers the organisational structure and the process for attracting and retaining the appropriate staff, motivated by appropriate incentives and reward systems.</td>
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<td><strong>Risk Assessment</strong> (Chapter 13)</td>
<td>Risks are analysed considering likelihood and impact as a basis for determining how they should be managed. The analysis process should clearly determine which risks are controllable, and which risks are not controllable. Risk assessment also needs to be <strong>dynamic</strong>, with managers considering the effect of changes in the internal and external environments that may render controls ineffective.</td>
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<td><strong>Control Activities</strong> (Chapter 14)</td>
<td>Policies and procedures are established and implemented to help ensure the risk responses are effectively carried out. COSO guidance suggests that a <strong>mix of controls</strong> will be appropriate, including prevention and detection and manual and automated controls. COSO also stresses the need for controls to be performed across <strong>all levels of the organisation</strong>, at <strong>different stages within business processes</strong> and over the <strong>technology environment</strong>.</td>
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<tr>
<td><strong>Information and Communication</strong> (Chapter 15)</td>
<td>Relevant information is identified, captured and communicated in a form and timeframe that enable people to carry out their responsibilities. The information provided to management needs to be <strong>relevant and of appropriate quality</strong>. Effective communication should be <strong>broad</strong> – flowing up, down and across the entity. There needs to be <strong>communication with staff</strong>. Communication of risk areas that are relevant to what staff do is an important means of strengthening the internal environment by embedding risk awareness in staff's thinking. There should also be effective communication with third parties such as shareholders and regulators.</td>
</tr>
<tr>
<td><strong>Monitoring Activities</strong> (Chapter 15)</td>
<td>Risk control processes are monitored and modifications are made if necessary. Effective monitoring requires <strong>active participation</strong> by the board and senior management, and <strong>strong information systems</strong>, so the data senior managers need is fed to them. COSO has drawn a distinction between <strong>regular review</strong> (ongoing evaluation) and <strong>periodic review</strong> (separate evaluation). However weaknesses are identified, the guidance stresses the importance of <strong>feedback and action</strong>. Weaknesses and deficiencies should be communicated to management and the board of directors as appropriate.</td>
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All the above may be summarised as in the diagram below. The cube is designed to depict the interrelation between:

1. **An organisation’s objectives** (with regard to its operations and its reporting and compliance obligations).

2. **The five components of internal control.** In order to be able to conclude that a particular internal control relating to a particular operation is effective, all five components must be ‘present and functioning’.

3. **The various levels of the organisation** where the work is undertaken. Concern for internal controls should apply to all aspects of an enterprise, and at all levels of management within it.

![Diagram of internal control components](image)


### 4.3 COSO Framework Principles and Points of Focus

The determination as to whether a particular internal control is effective is a matter for **management judgement**. To assist with this, the updated 2013 COSO Framework sets out **17 formal Principles**, which represent the fundamental concepts specifically associated with each internal control component. The five control components and the 17 principles together represent the criteria for judging whether appropriate control systems are in place. An organisation will achieve effective internal control if the 17 principles are applied; in other words, that they are ‘present and functioning’ in the same way that the components are.

Supporting each of these principles are **77 ‘Points of Focus’** which are not designed to be separately evaluated, but are rather intended as guidance to support management when designing and evaluating internal control systems. Each of the 77 points of focus is mapped directly to one of the 17 principles, and each principle is mapped directly to one of the five components.
### 4.4 The COSO Framework – the Control Environment

The first internal control component of the COSO Framework is the Control Environment. The principles and related points of focus associated with this component are set out below.

<table>
<thead>
<tr>
<th>COSO Principles</th>
<th>Points of Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The organisation demonstrates a commitment to integrity and ethical values.</td>
<td>1. Sets the tone at the top</td>
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<tr>
<td></td>
<td>2. Establishes standards of conduct</td>
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<td></td>
<td>3. Evaluates adherence to standards of conduct</td>
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<td></td>
<td>4. Addresses deviations in a timely manner</td>
</tr>
<tr>
<td>2. The board of directors demonstrates independence from management and exercises oversight of the development and performance of internal control.</td>
<td>5. Establishes oversight responsibilities</td>
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<td></td>
<td>6. Applies relevant expertise</td>
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<td></td>
<td>7. Operates independently</td>
</tr>
<tr>
<td></td>
<td>8. Provides oversight on Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring Activities</td>
</tr>
<tr>
<td>3. Management establishes, with board oversight, structures, reporting lines, and appropriate authorities and responsibilities in the pursuit of objectives.</td>
<td>9. Considers all structures of the entity</td>
</tr>
<tr>
<td></td>
<td>10. Establishes reporting lines</td>
</tr>
<tr>
<td></td>
<td>11. Defines, assigns and limits authorities and responsibilities</td>
</tr>
<tr>
<td>4. The organisation demonstrates a commitment to attract, develop and retain competent individuals in alignment with objectives.</td>
<td>12. Establishes policies and practices</td>
</tr>
<tr>
<td></td>
<td>13. Evaluates competence and addresses shortcomings</td>
</tr>
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<td></td>
<td>14. Attracts, develops and retains individuals</td>
</tr>
<tr>
<td></td>
<td>15. Plans and prepares for succession</td>
</tr>
<tr>
<td>5. The organisation holds individuals accountable for their internal control responsibilities in the pursuit of objectives</td>
<td>16. Enforces accountability through structures, authorities and responsibilities</td>
</tr>
<tr>
<td></td>
<td>17. Establishes performance measures, incentives and rewards</td>
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<td></td>
<td>18. Evaluates performance measures, incentives and rewards for ongoing relevance</td>
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<tr>
<td></td>
<td>19. Considers excessive pressures</td>
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<tr>
<td></td>
<td>20. Evaluates performance and rewards or disciplines individuals</td>
</tr>
</tbody>
</table>
COSO’s guidance therefore stresses that a **strong commitment** at the top of the organisation to sound control **compliance, integrity and ethical values** is essential for a sound control framework to exist. The following factors need to be reflected in the internal environment.

- **The integrity, ethical values and competence** of directors and staff (Principle 1)
- An appropriate **philosophy and operating style** on the part of directors and management, particularly with regard to board oversight of control systems, which is regarded as vital to effective internal control (Principle 2)
- The entity's **organisational structure** and methods of assigning authority and responsibility (including segregation of duties and supervisory controls) (Principle 3)
- The directors’ **methods of imposing control**, including the internal audit function, the functions of the board of directors and personnel policies and procedures (Principle 4)
- The entity's **culture**; with control seen as an integral part of the organisational framework for which individuals are held accountable (Principle 5)

The UK Turnbull report highlighted a number of elements of a strong internal environment, and these are reflected in the Points of Focus listed above.

- **Clear strategies** for dealing with the significant risks that have been identified
- The company’s **culture, code of conduct, processes and structures, human resource policies and performance reward systems** supporting the business objectives and risk management and internal control systems
- Senior management demonstrating through its actions and policies commitment to **competence, integrity** and fostering a **climate of trust** within the company
- **Clear definition** of **authority, responsibility** and **accountability** so that decisions are made and actions are taken by the appropriate people
- **Communication** to employees of what is expected of them and the scope of their freedom to act
- People in the company having the **knowledge, skills** and **tools** to support the achievements of the organisation's objectives and to manage its risks effectively

Effective control systems and an effective control environment can make a big contribution to the quality of reporting. COSO’s guidance on internal controls over reporting sees **organisational and personnel issues** as having a big impact. Systems should identify which people or departments are responsible for producing specific information. The lines of reporting for each function and business unit should enable effective reporting. Managers also need to consider carefully whether the **levels of authority and responsibility** staff are given are appropriate. Individuals need to be able to get their jobs done but there is also a need for proper checks. The organisation must also assess the knowledge and skills required that staff involved in financial reporting must have. Staff need to have the **necessary competencies** for the work they are doing, and across the organisation there should be sufficient expertise.
SECTION SUMMARY

The COSO Internal Control – Integrated Framework provides a coherent framework for organisations to assess the effectiveness of their internal control systems, based on the following components.

- Control environment
- Risk assessment
- Control activities
- Information and communications
- Monitoring activities

This section looked at the Control Environment. The remaining components are dealt with in the following chapters.

5 Evaluating control systems

SECTION INTRODUCTION

This section looks at the criteria that can be used to evaluate the effectiveness of internal control systems.

5.1 Principles or rules?

Having rules requiring organisations to implement internal controls should mean that controls are applied consistently by organisations. External stakeholders dealing with these organisations will have the assurance that they should have certain prescribed controls in place. However, this does not mean that all organisations will be operating the same controls with the same effectiveness.

A principles-based approach to internal control implementation (such as the COSO Framework) means that organisations can adopt controls that are most appropriate and cost effective for them, based on their size and risk profile and the sector in which they operate. The following general points apply to any review of control systems.

Objectives

The controls in place need to help the company fulfil key business objectives, including conducting its operations efficiently and effectively, safeguarding its assets and responding to the significant risks it faces.

Links with risks

Links between controls and risks faced are particularly important, with the organisation needing a clear framework for dealing effectively with risks. Key elements are the board defining risk appetite within its risk capacity, which will determine which risks are significant. There need to be reliable systems in place for identifying and assessing the magnitude of risks.
Control system compatibility

**Guidance on control procedures** needs to be supported by other aspects of the control system, and the overall systems need to deliver a consistent message about the importance of controls. **Human resource policies and the company's performance reward systems** should provide incentives for good behaviour and deal with flagrant breaches.

**Mix of controls**

Detailed controls at the transaction level will not make all that much difference unless there are other controls further up the organisation. There should ideally be a pyramid of controls in place, ranging from corporate controls at the top of an organisation (for example ethical codes), management controls (budgets), process controls (authorisation limits) and transaction controls (completeness controls). Controls shouldn't just cover the financial accounting areas, but should include non-financial controls as well.

**Human resource issues**

How well control procedures operate will also be determined by the authority and abilities of the individuals who operate the controls. There need to be clear job descriptions that identify how much authority and discretion individuals have at different levels of the organisation. Controls can be also be undermined if the people who operate them make mistakes. Therefore managers and staff need to have the requisite knowledge and skills to be able to operate controls effectively. **Documentation and training** will be required, and individuals’ abilities assessed on a continuing basis as part of the appraisal process.

**Control environment**

The control environment matters because the company's culture will determine how seriously control procedures are taken. If there is evidence that directors are overriding controls, this will undermine them. If staff resent controls, they may be tempted to collude to render controls ineffective.

**Review of controls**

Directors should demonstrate their commitment to control by reviewing internal controls.

**Information sources**

In order to carry out effective reviews of controls, the board needs to ensure it is receiving sufficient information. There should be a system in place of regular reporting by subordinates and control functions as well as reports on high-risk activities. The board also needs to receive confirmation that weaknesses identified in previous reviews have been resolved. Finally there needs to be clear systems of reporting problems to the board.

**Feedback and response**

A basic principle of control system design is that the feedback received should be used as the basis for taking action to change the controls or modify the overall control systems. There should be rapid responses if serious problems are picked up, for example involvement of senior management in reviewing possible fraud.

**Costs and benefits**

Rational consideration of whether the costs of operating controls are worth the benefits of preventing and detecting problems should be an integral part of the board's review process. Directors may decide not to operate certain controls on the grounds that they are prepared to accept the risks of not doing so.
SECTION SUMMARY

Using a principles-based approach, such as that provided by the COSO Framework, organisations can adopt those controls that are most appropriate and cost effective for them. This section set out general points that are applicable to any review of the performance of an internal control system.

Question 12.3  
What do you think are the most important features highlighted by the COSO Internal Control Framework?
Chapter Roundup

Quick Quiz

1. What is the relevance of risk management and internal control to corporate governance?
2. What is the distinction between risk management and internal control?
3. Give three objectives of an internal control system.
4. Who has responsibility for the design and implementation of controls?
5. Why might a deterioration in relationships with customers and suppliers be regarded as a financial risk?
6. What type of control are security procedures for safeguarding assets?
7. Why can internal control only ever provide ‘reasonable’ assurance to an entity’s management?
8. What are the five components of the COSO Internal Control Framework?
9. What is the meaning of ‘present and functioning’ within the COSO Framework?
10. What three interrelated elements are represented on the three faces of the ‘cube’ diagram that summarises the COSO Framework?
11. What are the ‘Points of Focus’ in the COSO Framework?
12. How should the manager responsible for an operation respond to a serious deterioration in operational performance which may have been caused by a failure in a key internal control?
Answers to Quick Quiz

1. The Board of Directors has responsibility for reviewing the effectiveness of the systems of risk management and internal control. This is because the company will not achieve its objectives if the systems of risk management and internal control are ineffective. Without an effective risk management and control system, the Board will not be able to fulfil its oversight responsibilities. The Board of Directors must also decide the risk appetite of the company, and also support a culture of risk awareness throughout the organisation.

2. Risk management refers to the identification, measurement, assessment and monitoring of the risks facing a business – be they strategic, financial, operational, compliance or IT related. Internal control refers to the measures (such as organisation structure, policies and procedures) that are designed and implemented to mitigate the risks identified.

3. To ensure that business operations are conducted in an orderly and efficient way
   - To ensure compliance with laws and regulations
   - To safeguard the assets of the business
   - To prevent and detect fraud
   - To ensure the accuracy and completeness of accounting information
   - To ensure the timely preparation of financial reports

4. Management. The Board has an oversight monitoring and review function, but management has the executive responsibility for designing and implementing controls.

5. Poor relationships with customers may lead to falling revenues, and poor relationships with suppliers will affect the smooth running of business operations, for example if consumables or raw materials are not delivered on time. Both of these will affect the financial performance and position of a company.

6. This is an example of an operational control.

7. Assurance can only ever at best be reasonable, since risk relates to uncertainty about the future and this cannot be completely controlled.

8. Control environment
   - Risk assessment
   - Control activities
   - Information and communication
   - Monitoring activities

9. Present' refers to the design and implementation of the internal control system, and ‘functioning' means that it is operating effectively – in order for management to be able to conclude that the internal control environment is effective.

10. The objectives of the organisation, the five components of internal control and the various levels of the organisation.

11. The ‘Points of Focus' which support the Principles behind the Framework are not designed to be separately evaluated and ‘ticked off' by management, but are intended as guidance to support management when designing and evaluating their internal control systems.

12. The manager should assess the nature of the operational failure, and take whatever measures seem appropriate to halt the losses. They should also investigate the reason for the poor performance, and assess whether there was a failure in control. If so the control should be strengthened or replaced. The manager should also ensure that the failure is reported. Where appropriate the matter should be reported upwards to the manager's superior, thereby escalating the issue.
12.1

Small amounts
The college employs hundreds of teaching staff. Payments for one fictitious employee would not necessarily be large enough to attract the attention of internal auditors. Even if auditors had checked a random sample of payments each year, given the large population the probability was that the fictitious employee would not be discovered for some time. However, the use of computer-assisted techniques, such as data analytics, by the internal auditors could have discovered this fictitious employee.

Falsification of records
The records of the employee appeared to be genuine and a routine payment to a lecturer, entered on the payroll supervisor's log-in and signed off by P. There was nothing unusual about these payments that could have been identified.

Use of payroll supervisor's log-on
The payroll supervisor would normally have been the third person involved with this transaction because of their involvement at the initial stage. However, P was able to bypass the need for the supervisor's involvement by taking advantage of her absence and correctly guessing how to enter the computer on the supervisor's password. As a good IT control practice, some systems require a second-level authorisation for the creation of a new account.

Collusion
Once the fictitious lecturer's details had been entered, the college's systems meant that two people had to be involved for each payment to a lecturer to be made, the head of department and the payroll clerk. The involvement of both in the fraud meant that the segregation of duties between the two staff, that P authorised the payment and M entered it, was lost.

Involvement of senior staff
The system also depended on the authorisation of payments by P. The system would have produced for P a record of the lecturers who had been paid for working in P's department. However, review of this by P would have been worthless, as he would not have reported the fictitious lecturer. The system effectively relied on P's honesty. Many systems are designed on the basis that senior staff act honestly.

12.2

<table>
<thead>
<tr>
<th>Financial controls</th>
<th>Quantitative non-financial controls</th>
<th>Qualitative non-financial controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgets</td>
<td>Output capacity measures</td>
<td>Organisational controls in the management structure</td>
</tr>
<tr>
<td>Standard costs</td>
<td>Labour efficiency measures</td>
<td>Rules and guidelines</td>
</tr>
<tr>
<td>Variance analysis</td>
<td>Quality measures</td>
<td>Physical access controls</td>
</tr>
<tr>
<td>Financial ratio analysis</td>
<td>Error measurement</td>
<td></td>
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<tr>
<td>Investment appraisal (DCF analysis)</td>
<td>Project tracking controls</td>
<td>Corporate governance principles and guidelines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post-completion audits</td>
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</tbody>
</table>
12.3

The following are significant. You may well have come up with other points.

- Internal control and risk management is a continuous process.
- The tone must be set at the top.
- The different faces of the COSO model emphasise the need for setting objectives at different levels of the organisation, and for the components of internal control to be effective in each business unit, division, etc.
- There is a need for close monitoring by the board.
- Internal control systems rely for their effectiveness upon the performance of competent individuals, who are held accountable for their responsibilities within a clear organisational structure.
Organisations are exposed to many different risks, some much more significant than others. Adverse risk events may result in unexpected losses and reduced profits, and organisations with larger exposures to risk are in greater danger of suffering unexpected, substantial and unacceptable losses. Risks should therefore be managed, and kept within acceptable limits.

This chapter explains the nature of risk and risk management, and looks at the importance of enterprise risk management (ERM). It goes on to consider how risks are identified and the management responsibilities that exist.

Risk management and internal control can be distinguished from each other, but they are related, so the question of how risks are assessed within the COSO Internal Control Framework is also covered.

The chapter also makes a distinction between:

(a) Strategic risks, which are risks in the business and competitive environment in which a business operates.

(b) Financial risks, which are risks arising from possible changes in the financial environment or financial conditions.

(c) Operational risks, which are risks within the internal operations of a business organisation, and so subject to management control.

(d) Compliance risks, which are risks arising from an organisation’s failure to comply with laws, regulations or established procedures.
## Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identifying and Assessing Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Define and explain risk in the context of corporate governance.</td>
<td>2</td>
</tr>
<tr>
<td>Define and describe management responsibilities in risk management.</td>
<td>2</td>
</tr>
<tr>
<td>Explain the dynamic nature of risk assessment.</td>
<td>2</td>
</tr>
<tr>
<td>Explain risk appetite and how this affects risk policy.</td>
<td>2</td>
</tr>
<tr>
<td><strong>Categories of risk</strong></td>
<td></td>
</tr>
<tr>
<td>Analyse business risks, including strategic, operational and financial risks.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Assessment and measurement of risk</strong></td>
<td></td>
</tr>
<tr>
<td>Describe and evaluate a risk assessment framework.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Risk Management and Modelling</strong></td>
<td></td>
</tr>
<tr>
<td>Explain how business organisations use policies and techniques to mitigate various types of strategic, operational and financial risks</td>
<td>2</td>
</tr>
<tr>
<td><strong>Targeting and monitoring of risk</strong></td>
<td></td>
</tr>
<tr>
<td>Describe and analyse the approach to embedding risk management in an organisation.</td>
<td>3</td>
</tr>
<tr>
<td>Demonstrate how an organisation should implement the twenty Principles of the COSO Enterprise Risk Management Framework</td>
<td>3</td>
</tr>
<tr>
<td>Describe how an integrated, organisation-wide approach to risk management and internal control can help create, enhance and protect stakeholder value</td>
<td>3</td>
</tr>
<tr>
<td><strong>The COSO Internal Control Framework</strong></td>
<td></td>
</tr>
<tr>
<td>Identify and describe the Components of the Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities.</td>
<td>3</td>
</tr>
<tr>
<td>Demonstrate how an organisation should implement the seventeen Principles of the COSO Internal Control Framework.</td>
<td>3</td>
</tr>
<tr>
<td>Explain how the Points of Focus should be applied.</td>
<td>3</td>
</tr>
<tr>
<td>Determine whether the Components and Principles are 'present and functioning'.</td>
<td>3</td>
</tr>
<tr>
<td>Describe the interaction between the Framework and the application of Ethics Pronouncement (EP) 100: ISCA Code of Professional Conduct and Ethics and (EP) 200: Anti-money laundering and countering the financing of terrorism – requirements and guidelines for professional accountants in Singapore</td>
<td>3</td>
</tr>
<tr>
<td>Detail how the Framework can assist an organisation to fulfil its non-financial reporting responsibilities.</td>
<td>3</td>
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</table>

### EMERGING TRENDS AND CURRENT ISSUES

Summarise the key issues in relation to both domestic and international emerging trends and current issues. 1
ESSENTIAL READING


1 Definitions and categories of risk

SECTION INTRODUCTION
This introductory section provides a definition of risk and goes on to describe how risks can be classified into different types.

A note on terminology: ‘risks’ and ‘events’
In this text, you will notice that we refer to events as well as risks, but it is important to distinguish between the two.

An ‘event’ is an occurrence or set of occurrences.
However, ‘risk’ is the possibility that an event, or events, occur which affect an organisation’s ability to achieve its strategy and business objectives.
The key distinction between the two terms is that the occurrence of an event only represents a risk to an organisation if it affects the organisation’s ability to achieve its strategy and business objectives.

Risk is the possibility that actual results or events will turn out differently from what is expected and, as a result, will affect a business’s ability to achieve its objectives. Risk may be either negative risk (pure risk) or two-way risk (speculative risk).

(a) The concept of risk is often associated with the chance that actual events could be worse than expected. This is negative risk or pure risk, where events may either turn out ‘as expected’ or ‘worse than expected’. An example in business is credit risk (an aspect of financial risk), which is the risk that a customer will not pay money that they owe.

- The expected outcome is that the credit customer will pay on time.
- There is a negative risk that the customer will default and fail to pay, or that the customer will pay eventually but will be late with the payment.
- There is no ‘better than expected’ outcome. The customer will not pay more than they owe.
- There is however a possibility that a customer will pay earlier and will not take the full credit period available. In this respect credit risk can be positive.

(b) Some risks are two-way risks, or speculative risks. Two-way risks are risks where the actual outcome may be either better or worse than expected. Business ventures face many two-way risks: sales may be higher or lower than expected, and profits may be more or less than expected. Unlike negative risk, speculative risk provides opportunities for more upside benefits or higher returns, not just more downside losses.

1.1 External risks and internal risks
Risks may arise outside an organisation or within an organisation, and so may be external or internal risks.

(a) External risks for a business are risks in the business environment in which it operates. Examples are the risk of an economic downturn which could affect sales revenue; the risk that the market for a company’s product may go into decline; the risk that energy costs may rise, and so on. External risks may be either negative risks or speculative risks.

(b) Internal risks are risks within an organisation, such as the risk of IT system failure, the risk of unauthorised access to the company’s IT systems by a computer ‘hacker’, or failure by employees to carry out procedures properly due to negligence or fraud. Internal risks may be described as operational risks: they include internal control risks. Internal risks are mostly negative risks.

As a general rule, the management of an organisation have more control over internal risks than external risks.
### 1.2 Categories of business risk

Risks can be categorised in many different ways, so that there are many different types of risk. One method of classifying risks is to define **business risk** as risks arising from doing business that can affect the achievement of the organisation's objectives. We can divide business risk into four sub-categories: strategic risk, operational risk, financial risk and compliance risk.

(a) **Strategic risk** is risk that arises in the business environment. For example, risks arising from new technology, changes in consumer tastes, government regulations, the state of the economy, actions by competitors, and so on, are all sources of strategic risk. Characteristics of strategic risks are that:

- Many strategic risks are speculative (two-way) risks, rather than negative risks
- They are outside the direct control of management

(b) **Operational risk** is the risk of loss from a failure of internal business processes and internal controls. They include the risk of losses arising from:

- Information technology failures
- Human error
- Loss of key employees
- Fraud
- Interruptions to business operations

Characteristics of operational risks are that:

- They are mainly negative risks
- They are much more within the control of management than strategic risks, because in most cases they arise within the organisation, not outside it

(c) **Financial risks** are risks of a financial nature. They are risks that could affect the firm's financial performance, value, liquidity, or in some cases its financial viability as a going concern. Financial risks may arise outside or inside an organisation.

- External financial risks are risks of changes in the financial environment, such as the risk of a rise or fall in interest rates or a key exchange rate; or the risk of changes in conditions in financial markets such as the stock market or bond market.
- Internal financial risks are risks that are wholly or partly internal in nature, such as the risk of errors in published financial statements and some aspects of credit risk.

(d) **Compliance risk** is the risk arising from an organisation's failure to comply with laws, regulations, codes of conduct, or standards of practice.

If an organisation fails to comply with laws and regulations, it could face direct legal consequences (for example, fines or penalties), but compliance risks could also have a wider impact:

- Financial impact: the negative impact of regulatory or legal action could affect a company's profits, share price, and investor confidence in it
- Reputational impact: non-compliance may damage an organisation's reputation or brand, and could lead to a loss of customer trust
- Business impact: failure to comply with regulatory requirements could lead an organisation's factories being shut down, or embargoes being placed on its products, thereby significantly disrupting its ability to operate.

These categories of risk will be discussed in more detail later.
1.3 The significance of risks

Some risks are more significant than others. For each different business organisation, the most important risks may be different from those in other organisations. All risks should be managed, but the most significant risks should be given priority.

(a) For a business organisation, business risk is unavoidable. Companies take risks in business in order to make a return on investment. Without taking risks, there are no returns (or very small risk-free returns). As a general rule, it may be possible to earn higher returns by taking calculated risks. However, a business should keep strategic risks within an acceptable level by pursuing appropriate business strategies that are within its risk tolerance and do not create excessive risk exposures.

(b) Operational risks are also unavoidable, because people make mistakes and equipment sometimes breaks down. Even so, measures can be taken by management to reduce operational risks. The risk of human error can be reduced by appropriate training of staff; the risk of equipment breakdown can be reduced by regular maintenance procedures, or by replacing equipment before it becomes too old and unreliable.

Significant risks should be given priority. They may cause large losses for an organisation, and even threaten its continued existence.

Example:

(a) The BP oil disaster in the Mexico Bay (the ‘Deepwater Horizon’ disaster) in 2010. Eleven employees were killed and the oil spillage of over 200 million gallons caused extensive environmental damage to the US coast. The disaster was the result of safety risk. The financial cost to BP, as well as the damage to its reputation and business, has been enormous.

(b) The losses of about US$6.2 billion incurred by US bank JP Morgan Chase in 2012 as a result of trading activities by a credit derivatives trader, the so-called ‘London Whale’.

(c) A serious fire at the Bukit Panjang exchange in Singapore in October 2013, which disrupted telecommunications and broadcast services for about eight days. The Infocomm Development Authority of Singapore (IDA) found that the fire, and subsequent disruption to services, could have been avoided by Singtel if the company had enforced its standard operating procedures and works safety practices. IDA also found that Singtel did not have specific contingency plans for dealing quickly with a disruption to services on such a large scale. It imposed a fine of S$6 million on the company.

Adverse risk events are often attributable to one of two failures by management:

(a) Failure to recognise the existence of a major risk.

(b) Recognising a risk, but failing to understand its importance (and not taking timely measures to deal with it).

Companies and other organisations should have a risk management system that continually identifies and analyses risks, so that they can take measures to manage the significant risks.

SECTION SUMMARY

This section has defined risk and introduced several categories of risk. It has also suggested that strategic risks are external risks, which are more difficult for management to control directly than operational risks, which are generally internal to the organisation.

Significant risks have the potential to cause severe losses, and it is important for management to have systems of risk management.
2 Frameworks for risk management

SECTION INTRODUCTION

As we saw in the previous chapter, a distinction can be made between risk management and internal control: risk management relates to the identification, measurement, assessment and monitoring of risk, while internal control refers to the measures implemented by management to mitigate risks.

This section explains the benefits of a structured risk management system for the entire organisation, as illustrated by enterprise risk management systems. The section introduces risk management frameworks from COSO (the 2017 Enterprise Risk Management Framework), IFAC, and begins with one based on the recommendations of ISO 31000:2018. This is an internationally accepted standard providing guidelines for managing risks faced by all organisations.

2.1 ISO 31000

The international standard ISO 31000:2018 – Risk Management - Guidelines is a risk management framework which recommends that risk management throughout an organisation should be formally structured and co-ordinated, because risk management is an integral part of all organisational activities.

The alternative to a structured system for the entire organisation is a system in which each manager, or functional department, or team, or business unit or division of the business has its own different risk management systems and procedures, and different methods for measuring and assessing risks.

An integrated risk management system has several advantages over uncoordinated systems within the same organisation.

(a) Risk management can be applied across the entire organisation, to every area of operations and at every level of management. Each operational area is responsible for its own risk management, but the methods and processes that are used are consistent.

(b) A comprehensive framework should help to ensure that risk is managed effectively, efficiently and coherently across the entire organisation.

(c) If risk management processes are consistent across the organisation, it is easier to communicate about risk and to understand what other parts of the organisation are doing to manage risks.

(d) Common classifications for risk and common methods of measuring and recording risks make it easier to consolidate risks and report them to a higher level of management within the organisation. Consistency in reporting and measuring helps the Board of Directors and the Group Risk Management Committee to fulfil their responsibilities for monitoring risk management and the risk management system.

An enterprise risk management system should be proportionate to the level of risk in the organisation. Larger and more complex organisations have much more exposure to risk than small entrepreneurial businesses, and so need a more structured risk management system. The risk management system should be cost effective.

An Enterprise Risk Management (ERM) system also has the following characteristics:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Comment</th>
</tr>
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<tbody>
<tr>
<td>Operated at every level</td>
<td>It operates at every level within the organisation, and it helps people to understand risk and their own responsibility for risk management.</td>
</tr>
<tr>
<td>It applies across the organisation</td>
<td>It applies to activities at all levels of business, from strategic planning and resource allocation, to business unit activities and business planning.</td>
</tr>
</tbody>
</table>
### Table

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>It identifies key risks and manages them</td>
<td>The system helps management to identify and assess the key risks affecting the organisation and to ensure that risks are kept within the tolerance levels set with board approval, and consistent with the risk appetite of the Board.</td>
</tr>
<tr>
<td>It provides reasonable assurance</td>
<td>The system provides reasonable assurance that risks will remain within acceptable limits and the organisation is not exposed to excessive risks. However, risks are uncertain in nature and a risk management system cannot provide absolute or total assurance.</td>
</tr>
<tr>
<td>It is geared to the achievement of the organisation’s objectives</td>
<td>Risk management as well as the pursuit of profit are integral parts of the organisation’s management systems.</td>
</tr>
</tbody>
</table>

### 2.2 The COSO Enterprise Risk Management Framework

COSO published its *Enterprise Risk Management – Integrated Framework* in 2004, and the underling logic of that framework was that ‘value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploys resources in pursuit of the entity’s objectives.’ (COSO, (2004) Executive Summary: Enterprise Risk Management – Integrated Framework.)

However, as we noted in Chapter 1 of this Textbook, COSO’s approach has now been updated in the 2017 document, *Enterprise Risk Management – Integrating with Strategy and Performance*. This revised framework seeks to provide greater insight into the links between strategy, risk and performance, and COSO’s definition of Enterprise Risk Management (ERM) provides some context for this:

ERM is not a function or process. ‘It is the culture, capabilities, and practices that organisations integrate with strategy-setting and apply when they carry out that strategy, with the purpose of managing risk in creating, preserving and realising value.’ (COSO, (2017) Executive Summary: Enterprise Risk Management – Integrating with Strategy and Performance.)

Significantly, COSO’s Framework illustrates ERM with a linear model, intended to highlight the ‘dynamic, integrated’ nature of ERM, that begins with an organisation’s mission and core values and extends through its strategy and objective setting to the creation of enhanced value. As such, the Framework positions risk management as an integral part of an organisation’s strategy-setting and performance management, rather than being a separate function.

### IMPORTANT

Remember the point we made in the previous chapter that ERM and internal control are not interchangeable. Equally, however, remember that risk management and internal control are both crucial in helping organisations create, enhance and protect value for their stakeholders. Internal control is a fundamental aspect of ERM.

Organisations need to make informed decisions about the level of risk they want to take, which will shape their strategies and objectives (ERM). However, they also need to implement the necessary controls at every level, and across operations, to enable them to pursue those strategies and objectives (internal control).

The Principles of COSO’s Enterprise Risk Management Framework (2017) and the Internal Control Framework (2013) are summarised in an Appendix at the end of this chapter to help you compare and contrast the two.
COSO’s Enterprise Risk Management model

COSO, (2017), *Enterprise Risk Management – Integrating with Strategy and Performance: Executive Summary; pg. 6*

COSO’s ERM Framework is a set of 20 principles, which represent the things an organisation should do as part of its ERM practices. These principles are organised into five groups (‘components’):

- Governance and culture
- Strategy and objective-setting
- Performance
- Review and revision
- Information, communication and reporting

2.2.1 The Components and Principles of COSO’s ERM Framework

In this section, we summarise the key features of the five components, and the principles related to each of the components. Remember, the principles are ‘actions’, the things COSO recommends an organisation should do in order to enhance the value it creates for its stakeholders.

**Governance and culture**

Governance and culture together form the basis for all the other components of ERM. Governance sets the organisation’s tone, including reinforcing the importance of ERM and establishing oversight responsibility for it.

Culture encompasses an organisation’s ethical values and desired behaviours, as well as an organisation’s understanding of risk. An organisation's culture is typically reflected in its decision-making.

1. **Exercises board risk oversight** – The board of directors provides oversight of the strategy, for example, reviewing management’s proposed strategies and risk appetite to ensure they align with the organisation’s mission and core values.
2. **Establishes operating structures** – The organisation establishes appropriate operating structures in the pursuit of its strategy and business objectives.
3. **Defines desired culture** – The organisation defines the desired behaviours that characterise its desired culture.
4. **Demonstrates commitment to core values** – The organisation demonstrates a commitment to its core values.
5. **Attracts, develops and retains capable individuals** – The organisation is committed to building human capital, in alignment with its strategy and business objectives.

**Strategy and objective-setting**

ERM is integrated into an organisation’s strategic plans through the process of setting its strategy and business objectives. By gaining an understanding of business context, an organisation can gain insight into internal and external factors (eg strengths, weaknesses, opportunities, threats) and their impact on
risk. An organisation sets its risk appetite in conjunction with setting its strategy. Business objectives allow strategy to be put into practice, and to shape the organisation’s day-to-day operations and priorities.

6. **Analyses business context** – The organisation considers the potential effects of business context on risk profile.

7. **Defines risk appetite** – The organisation defines risk appetite in the context of creating, preserving and realizing value.

8. **Evaluates alternative strategies** – The organisation evaluates alternative strategies and their potential impact on its risk profile. (The suitability of potential strategies could be influenced by the organisation’s risk appetite.)

9. **Formulates business objectives** – The organisation considers risk while establishing the business objectives, at various levels, that align and support strategy.

**Performance**

An organisation needs to identify and assess the risks that may affect its ability to achieve its strategy and business objectives. Risks should be prioritised according to their severity, and considering the organisation’s risk appetite. The organisation then needs to select appropriate risk responses. In this way, the organisation develops a portfolio view of the amount of risk it has assumed in the pursuit of its strategy and business objectives. The results of this process are reported to key risk stakeholders.

10. **Identifies risk** – The organisation identifies risk that affects the performance of strategy and business objectives.

11. **Assesses severity of risk** – The organisation assesses the severity of risk.

12. **Prioritises risks** – The organisation prioritises risks as a basis for selecting responses to risks.

13. **Implements risk responses** – the organisation identifies and selects appropriate risk responses.

14. **Develops portfolio view** – the organisation develops and evaluates a portfolio view of risk.

**Review and revision**

An organisation needs to review its performance in order to consider how well the ERM components are functioning, over time and in the light of substantial changes (for example, changes in the business environment). The organisation also needs to consider what revisions may be needed to its strategy and business objectives as a result of the changes, for example investing in new business areas, or scaling back its operations in other areas.

15. **Assesses substantial change** – The organisation identifies and assesses changes that may substantially affect its strategy and business objectives.


17. **Pursues improvement in enterprise risk management** – The organisation looks to continuously improve its enterprise risk management.

**Information, communication and reporting.**

ERM requires a continual process of obtaining and sharing necessary information – from internal and external sources – which flows up, down and across the organisation.

18. **Leverages information and technology** – The organisation leverages its information systems and technology to capture, process and manage data and information to support ERM.

19. **Communicates risk information** – The organisation uses communication channels to support ERM by sharing information.

20. **Reports on risk, culture and performance** – The organisation reports on risk, culture and performance at multiple levels and across the entity.
2.3 IFAC risk architecture model

Another model for risk management was included in a 1999 report from the International Federation of Accountants (IFAC): *Enhancing shareholder wealth by better managing business risk*.

IFAC recommended the development of a risk architecture within which risk management processes could be developed. The architecture involves designing and implementing organisational structures, systems and processes to manage risk.

Risk architecture has eight components:

- Acceptance of a risk management framework for the organisation
- Commitment to risk management from executives and the board
- Establishing a risk response strategy: how should the organisation respond to significant risks that are identified?
- Assignment of responsibility for risk management processes
- Resourcing: providing sufficient resources for the implementation of risk management policies and procedures
- Communication of risk management policies and training staff in risk management
- Reinforcing risk culture through human resources mechanisms, such as recruitment, training, performance monitoring and, where necessary, disciplinary action
- Monitoring of the risk management process

2.4 Principles of risk management

The three main risk management organisations in the UK – the Association of Insurance and Risk Managers (AIRMIC), the public sector risk management association, Alarm, and the Institute of Risk Management (IRM) – have published *A structured approach to Enterprise Risk Management* which is based on ISO 31000: 2009.

It identifies the main principles of risk management:

- Risk management processes are concerned primarily with assessment of significant risks and the implementation of suitable responses or treatments for the risks.
- The objective of risk management is to achieve maximum sustainable value from all the activities of the organisation.
- Risk management should improve understanding of the potential upside opportunities where risks are two-way (potentially positive as well as negative) as well as the downside of negative risks. It should improve opportunities for success as well as reduce risks of failure and loss.
- Risk management should be a continuous process. Although it applies at all levels of the organisation, from the operational up to the strategic level, it should support the development and implementation of the strategy of an organisation.
- It should address methodically all the risks associated with all of the activities of the organisation.
2.5 Risk assessment within a risk management framework

The ISO 31000 Framework identifies the following elements in the risk management process:

Establish the context: It is necessary to understand the external and internal aspects of the organisation and its business.

Identify risks: Identify risks and their location, time frame, root causes and possible outcomes.

Analyse risks: Analyse the possible outcome of a risk event in terms of impact and likelihood.

Evaluate risks: Use risk analysis to decide which risks need treatment, and in what order of priority.

Risk assessment: This term is used as a collective description for risk identification, analysis and evaluation.

Treat risks: Respond to the risk. Identify alternative ways of treating the risk and select and implement the preferred alternative.

Monitor and review: Monitoring and review relates to all the above elements or stages in the risk management cycle.

Communicate and consult: Communication to all stakeholders improves the level of understanding of risk and so improves risk treatment. Communication is important at all stages in the risk management cycle.

2.6 Common characteristics of risk management frameworks

Risk management frameworks share the following characteristics:

(a) Risk strategy and policy. The organisation should have a strategy on risk and risk management, and the Board should consider risk within the strategic direction that it sets for the company.

(b) Risk management processes. There should be processes for identifying and assessing risk, and responding to changes in risk, on a daily basis.

(c) Risk management structure. There must be specific management responsibilities for risk.

(d) Culture. The organisation should have a risk-awareness culture, with the Board and senior management providing an example that employees follow.

(e) Risk management systems and tools. There should be suitable systems, procedures, controls and other tools for the management of risks.

(f) Assurance. There should be arrangements for monitoring risk management and obtaining assurance about the effectiveness of the risk management system.

SECTION SUMMARY

This section has described frameworks for enterprise risk management, including risk evaluation which should be applied throughout the organisation. The need for a formal risk management system is more important in large and complex organisations.

A common framework uses the same classifications of risk throughout the organisation, and similar methods for measuring and assessing the same type of risk, wherever it occurs within the organisation.
3 Risk identification

SECTION INTRODUCTION

For your examination, you may be required to identify and discuss different risks in a case study scenario. This section describes some of the risks that may be relevant, and how they might be identified and classified.

3.1 The purpose and methods of risk identification

The purpose of risk identification is to obtain a list of all risks (at all levels within the organisation) that may prevent or interfere with the achievement of objectives – and also to identify events that may enhance the ability of the organisation to achieve its objectives. The list of risks needs to be comprehensive at this stage, because any risks that are overlooked will escape the subsequent process of risk analysis (and assessment of the significance of the risks).

Risks should be identified even if they are beyond the ability of the company to control, whether they are inherent risks or residual risks.

- **Inherent risks.** This is a term to describe the risks and their potential consequences if they materialise, assuming that no controls or risk treatment measures are in place.

- **Residual risks.** This is a term to describe the risks and their potential consequences if they materialise, taking into consideration any actual or proposed actions taken to mitigate the risk. (So residual risk is never greater than the inherent risk.)

No-one can manage a risk without first being aware that it exists. Some risks are familiar and well-known to management. These include risks such as:

- Credit risk: the risk of non-payment by credit customers
- Currency risk: for companies engaged in international trade
- Compliance risk: the risk of failure to comply with the law or statutory regulations

Other risks may not be so obvious, and management should look for unfamiliar risks that may be present.

There should be procedures and arrangements for identifying risks and changes in risk conditions. These vary between different organisations: large companies will usually have a more structured system for risk identification than smaller businesses.

Some of the methods of identifying risks are as follows.

(a) **Physical inspection.** This is a method used to identify health and safety risks within an operation. A health and safety inspector visits locations and checks for risks that could result in injury to people or damage to assets.

(b) **Investigations.** There may be regular or occasional investigations of areas of risk, and the investigators may be required to report on their findings or make recommendations for managing the risk. Quality inspections are an example of regular investigation. Special investigations by internal or external auditors are examples of occasional investigations.

(c) **Brainstorming or risk workshops.** Management teams or committees may meet to discuss their views on risk and changes in the risk environment. Suggestions and ideas can be reported for further assessment by the managers responsible for the area of business operations where the risk has been identified.

(d) **Scenario analysis or ‘what if?’ analysis.** Risks can be identified by starting with an event or scenario and considering what would happen if the event occurred. For example: What if the company lost its biggest customer? What if there is economic recession next year? What if interest
rates rise by 2% next year? Another similar approach is to construct cause-and-effect diagrams, which plot the effects of a risk event and show the inter-connectivity between risks.

(e) Research methods, such as conducting interviews or undertaking surveys, possibly using independent research firms.

(f) Consulting stakeholders, such as major shareholders and employee representatives.

3.2 Recording risks: risk registers

There should be a system within the organisation for management at all levels to record risks they have identified. Risks can be recorded in risk registers. The register can then be used to record:

- The identity of the manager responsible for the risk
- Action taken to investigate the risk
- The outcome of the investigation: if possible, the money value of the risk or potential loss from an adverse risk event
- Where they exist, interdependencies with other risks
- Measures taken in response to the risk (and the date that action was taken)
- A review of the effects of the management action

The information in risk registers can be used by senior management to monitor risk management procedures throughout the organisation, and in setting the agenda for meetings of the risk management committee.

Processes and procedures for risk identification will be ineffective unless there is a strong risk awareness culture within the organisation. Without an awareness of risks, individuals will not look out for them.

3.3 Risk classification systems

Although there is no risk classification system that is universally applicable to all types of organisation, these are important because management are able to identify accumulations of similar risks in all parts of the organisation in a standardised way.

A risk classification system will also enable management to identify which strategies and operations are most exposed to risk.

A structured approach to Enterprise Risk Management and the requirements of ISO 31000, published in February 2010 by the Association of Insurance and Risk Managers (AIRMIC), the public sector risk management association, Alarm, and the Institute of Risk Management (IRM) suggests that within the chosen classification system for risks, each risk should be identified individually and evaluated or ranked, and a record maintained of the following items:

<table>
<thead>
<tr>
<th>Name or title of risk (eg Currency Risk)</th>
<th>Unique identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of risk</td>
<td>The scope of the risk and details of possible risk events, including a description of the events, their type, size and number</td>
</tr>
</tbody>
</table>
| Nature of risk                         | Classification of the risk
|                                        | Timescale for possible impact
|                                        | Whether it is a hazard (negative risk), an opportunity (two-way risk) or something that adds to uncertainty |
| Stakeholders                           | Stakeholders both external and internal to the organisation who are affected by the risk, and their expectations |
### Name or title of risk (eg Currency Risk) | Unique identifier
---|---
Risk evaluation | The likely severity (magnitude) and frequency or likelihood of a risk event and escalation
Loss experience | Previous incidents, and history of any losses in the past related to this risk
Risk tolerance, appetite or attitude | Loss potential and anticipated financial and reputational impact of the risk
| Target for control of risk and desired level of performance
| Risk attitude, appetite and tolerance or limits for the risk
Risk response, treatment and controls | Existing control mechanisms and activities
| Level of confidence in existing controls
| Procedures for monitoring and review of risk performance
Potential for risk improvement | Potential for cost-effective improvements or modifications
| Recommendations and deadlines for implementation
| Responsibilities for implementing any recommendations
Risk strategy and policy | Responsibility for developing strategy related to the risk
| Responsibility for auditing/checking on compliance with risk controls

### SECTION SUMMARY

This section has explained the purpose of risk identification: to obtain a list of all risks that may prevent or interfere with the achievement of objectives. Risk identification and classification is a continual and dynamic process, and that organisations can use different methods of trying to identify (and record) risks.

### 4 Risk and governance

#### SECTION INTRODUCTION

This section explains risk in the context of corporate governance and discusses management responsibilities for risk management, including the responsibility of the Board of Directors for deciding the risk appetite of their company.

#### 4.1 Risk governance

Risk governance may be defined as: 'the architecture within which risk management operates in a company. It defines the way in which a company undertakes risk management. It is essential for the company to have clarity about what risks are being managed and how. It provides guidance for sound and informed decision-making and effective allocation of resources' (Risk Governance Guidance for Listed Boards).
There must be clarity about what risks are being managed, and how. The Board should work with management to decide which risks are relevant to the company (the 'risk universe') and should allocate sufficient resources to 'create and preserve value'. Risk governance involves cooperation between the Board of Directors and management of the company, to:

- Decide the goals of the company and the strategy for achieving those goals
- Identify the risks involved in the pursuit of those goals
- Decide and implement measures to manage and mitigate the risks, so that they are kept within a tolerable/acceptable level.

There has been a growing recognition, following the global financial crisis and subsequent economic downturn, that risk management is a very important aspect of corporate governance.

### 4.2 Board responsibility for risk management

A principle of good corporate governance is that responsibility for risk begins with the Board of Directors. The Board has the ultimate responsibility for approving the corporate strategy in a way that does not expose the company to an unacceptable level of risk. The Board should also approve the key risk management policies for the company, and should ensure that the systems of risk management and internal controls are effective.

The Code of Corporate Governance states that one of the roles of the Board is to 'establish a framework of prudent and effective controls which enables risks to be assessed and managed, including safeguarding of shareholders' interests and the company's assets.'

Principle 11 of the Code states that the Board is responsible for the governance of all aspects of risk. It should:

(a) Ensure that management maintains a sound system of risk management and internal controls, and

(b) Decide the nature and extent of significant risks that the Board is willing to take in pursuit of the company's strategic objectives.

If you are not sure about the guidelines of the Code of Corporate Governance on the responsibilities of the Board for the risk management and internal control systems, you should refer back to Chapter 11.

The Board of Directors of a company should also provide entrepreneurial leadership for the company. It should seek to obtain a return for shareholders, but at the same time it should try to ensure that risks remain within acceptable and tolerable limits.

The Board of Directors is responsible for risk policies and the extent to which the company can be exposed to risks, and it should have oversight of risk management.

### 4.3 A management framework for risk governance

Management, however, has responsibility for the implementation of risk management policies, systems and procedures. The management of risk is delegated to executive management, sometimes including professional risk managers.

<table>
<thead>
<tr>
<th>Role of the Board of Directors</th>
<th>Role of management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall responsibility for oversight on governance of risk</td>
<td></td>
</tr>
<tr>
<td>Ultimate responsibility for approving key risk management policies and ensuring the effectiveness of risk management and internal control systems</td>
<td>Design, implement and monitor risk management and internal control systems</td>
</tr>
<tr>
<td>Set the ‘tone at the top’ and instil a culture of risk awareness for effective governance</td>
<td>Management is responsible for driving governance and risk practices throughout the organisation</td>
</tr>
<tr>
<td>Ensure that relevant and significant risks are identified</td>
<td>Identify risks: changes to existing risks and emerging new risks. Notify the Board where appropriate.</td>
</tr>
</tbody>
</table>
Monitor exposures to risk, as reported by management, that could undermine the company's strategy or long-term viability. Monitoring should include periodic scans of the general business and industry environment.

Manage the business in accordance with the risk policies and directions of the Board

Ensure that management puts into action effective and efficient measures to manage/mitigate risks

Ensure that the Board is provided with high-quality, adequate and timely information on risks and risk management

Provide oversight of adequacy and effectiveness of risk management and internal control systems

MAS has issued guidelines on risk management for financial services organisations. These guidelines identify 'four cornerstones' of effective risk management and sound internal controls:

(a) The oversight role of the Board

(b) The role of senior management in ensuring that sound policies, robust systems and effective procedures for risk management are in place

(c) The presence of sound risk management processes and operating procedures that integrate prudent risk limits with appropriate risk measurement, monitoring and reporting

(d) The presence of competent personnel in the risk management and audit functions.

Companies may establish a framework for risk management that suits its own particular circumstances. For example, the Board may establish a Risk Committee of the Board to carry out some of its detailed tasks with respect to risk management; or it may ask the Audit Committee to take on this work; or (in smaller listed companies) the Board as a whole may deal with risk management issues.

In some companies, management may establish a hierarchy of management risk committees, or appoint specialist risk officers. Some companies may use a system of risk registers to record details of risks and how they are being managed. Companies may also establish an internal audit section to monitor internal controls. Risk management structures can vary, but they should be effective.

### 4.3.1 A risk management structure

Within a large company, there are many different operations and large numbers of individuals. For risk management to be effective, there has to be an organisation structure that includes all managers within the risk management processes, and responsibilities for risk must be allocated to individuals, teams or management committees.

The risk management structure for a company should therefore contain the following elements.

- Decisions about risk strategy and approval of risk policies by the Board:
  - The Board should consider risk when deciding the company's strategy and policies
  - Risk should be taken into consideration when allocating capital and resources across the company's activities

- A process for managing all significant aspects of risk throughout the organisation, with procedures for identifying, analysing, evaluating, and treating risks; and monitoring and reporting on risks and risk management.

- Risk should be identified and assessed within the day-to-day operations of the company.

- An organisation structure in which individual responsibilities for risk management are allocated.

- A risk aware culture within the organisation: employees must be able to 'do the right thing naturally' when it comes to dealing with risk.

- Resources must be allocated to managing risk, including appropriate technology.

- There must be a process for regularly obtaining assurance about the effective operation of the risk management framework.
The risk management process should be embedded into the organisation's business activities, including strategy setting, investment decisions, mergers and acquisitions or joint ventures, health and safety procedures, project management and change management – and day-to-day operations.

A group of companies may have the following structure of responsibilities at Board and senior management level.

**Board of Directors/CEO**
- Overall responsibility for risk management
- Responsibility for ensuring that risk management is embedded throughout the Group, in all processes and activities
- Regular reviews of the risk profile of the Group

**Board Risk Committee**
- Advise the Board on the company's overall risk tolerance and strategy
- Oversee and advise the Board on the company's current risk exposures and future risk strategy
- Oversee the company's overall risk management system and policies
- Review the effectiveness of the company's business risk management, and its capability to identify and manage new risk types

**Group Risk Management Committee (RMC)**
- Formulate strategy and policies for risk management, based on the Board's stated risk appetite and the Group's exposures to risks
- Receive reports from Business Units; review risk management activities; prepare and update the Group's risk register
- Prepare reports and make recommendations about risk and risk management to the Board
- Track risk management activities in the Business Units; keep risk management system under review

**Business Units**
- Where necessary, produce specific risk management policies for the Business Unit
- Prepare and update the risk register for the Business Unit
- Set priorities for risk management for the Business Unit
- Monitor risk management projects and improvements within the Business Unit
- Report to the Group Risk Management Committee

**4.3.2 Risk owners**

Within the management structure in each business unit there should be risk owners. These are the managers who are identified as having responsibility for the management of specific risks.

**4.3.3 Professional risk managers**

Banks and some other large companies have specialist risk managers with a Chief Risk Officer, but most companies do not.
A company may decide to appoint a Chief Risk Officer (CRO) with responsibility for oversight and coordination of risk management, where this is justified by the scale, diversity or complexity of the company's activities. When a CRO is appointed, however, responsibility for risk management remains with the relevant departments and their managers, and not with the CRO and CRO's team.

Risk officers provide advice and assistance, report to management on risks, and may also have a role in monitoring compliance with risk management policies.

4.3.3.1 Risk committees

Some companies have risk committees. A risk committee has responsibility for the oversight of risk management and internal controls, but the authority and powers of a committee vary and differ between companies. There are two types of risk committee – a Board committee and a management committee. They differ in the composition of their membership (directors or management) and their authority and responsibilities (oversight or management).

(a) The Board of Directors may establish a Risk Committee of the Board. This has certain delegated responsibilities from the Board. The Committee monitors the risk management system and discusses aspects of the system with executive management. It may discuss risk appetite and risk tolerances. A Risk Committee of the Board does not make important decisions independently without Board approval: it reports and makes recommendations to the Board for decision-making by the Board. When a Board of Directors does not have a Risk Committee, the Audit Committee may be given the responsibility for monitoring the effectiveness of the risk management system.

(b) There may also be a risk management committee of senior managers from various parts of the company. This executive committee may have responsibility for the coordination of risk management throughout the company and for enforcement of risk management policies and procedures. The committee may discuss significant risks that have been identified, consider the company's response to the risk and decide how the risk should be managed. When a company employs specialist risk managers, the senior risk manager is usually a member of the risk management committee.

4.4 The Board of Directors and risk policies

For any business, there is always some risk. An effective system of risk management and internal controls does not eliminate risk; it achieves an appropriate balance between risk and rewards (profit) that is consistent with the company's risk appetite and risk tolerance, as determined by the Board of Directors.

The Board's policy on risks and risk management will depend on several factors:

- The nature and extent of the risks facing the company.
- The extent to which the company is able to bear each different type of risk.
- The probability that the risk will materialise (and a 'risk event' occur).
- If a risk does materialise, the ability of the company to reduce its impact on the company's business.
- The risk-reward trade-off between the costs of operating particular risk controls and the benefits obtained from mitigating the risk.
- The adequacy of resources to manage the risk and the experience of management in dealing with risk.

4.4.1 Risk appetite

Risk appetite refers to the capacity and willingness of the entity to take risks. Companies must accept some risk in order to invest and make profits, but they should not be exposed to such high risks that the future existence of the company may be threatened. As a general rule, however, the returns from taking bigger risks are higher than the returns from a more cautious approach to business.
There should be a balance between risk and return. The extent to which a company is willing to accept exposures to risks is known as risk appetite, and risk appetite can be defined as the level of risk that the company is willing to accept in pursuit of value.

**Risk appetite** is a combination of two things:

(a) The **desire to take on risk** in order to obtain a financial return. This refers to the type of risk and the amount of risk that the Board of Directors wants for the company.

(b) **Risk capacity.** This is the amount of risk that the company could accept without serious threat to its financial stability and continued existence.

### 4.4.2 Risk tolerance

**Risk tolerance** is the amount of risk that the company is willing to accept, expressed as a quantified measure, threshold for deviation from a specified target, or a risk limit. It can also be described as the boundaries of risk-taking that a company sets for itself: the company should not go outside these boundaries in pursuit of its business objectives. Risk tolerance should be consistent with the company’s risk appetite.

Risk tolerance limits should be expressed differently for different types of risk and at different management levels within the organisation. For example, a manufacturing company may have risk tolerance limits for the proportion of defects (rejected items) in production. A hospital may set tolerance limits for maximum waiting times for patients for different types of medical treatment.

Risk tolerances can also be set at a strategic level. For example:

(a) A Board may decide that major new investments should be expected to yield a return of at least 15%, but the maximum acceptable loss on an investment should never amount to more than 60% of the cost of the investment.

(b) A Board may decide that the company should not invest in any new project if there is a risk of more than 5% that it will reduce Earnings Per Share in any year by more than 10%.

(c) At an operational level, a manufacturing company may set a tolerance limit for the rate of defective output as a target of one defective item in 1,000, although a defective rate of 3 in 2,000 will be tolerated if this results in direct cost savings of at least 5%.

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### Example

A major oil company has operations in four areas: exploration, extraction, refining and distribution. The highest risks are in exploration, where large amount of money may be invested without finding oil deposits that are large enough to justify commercial extraction. However the potential returns from successful exploration are high.

The second-highest risks are in extraction, which requires heavy investment and the security risks and costs of insurance against environmental risks are high.

The Board of Directors of the company must make a strategic decision about the relative size of investment in each of the four areas of activity, given the limited amount of funding available.

The risk appetite of the Board may be:

(a) In favour of higher-risk investment, with more investment in exploration and extraction than in refining and distribution.

(b) Against excessive risk, and in favour of higher investment in refining and distribution, relying more on independent exploration and extraction companies for supplies of oil for refining.
**Example**

A Singapore company operates exclusively in Singapore and Malaysia. It has been suggested that there are opportunities for bigger financial returns from investing in similar business operations in Thailand or the Philippines.

The Board should determine its risk appetite by indicating whether the company should invest in other countries and if so, how much exposure the company should have to operations in these countries. Risk tolerances could be agreed with executive management, about the maximum amount of capital investment in each country.

**Question 13.1**

In recent years, ABC Bank has responded positively to a rapid rise in commercial property prices and the demand from real estate companies for commercial property loans. It now has a very large portfolio of property loans, and the majority of new loans it is making are property loans. Many loans are at a fixed rate of interest and in a foreign currency (US dollars).

The Board of Directors is alarmed by a report suggesting that property prices have risen too far, and a collapse in prices could be imminent.

**Required**

(a) How should the Board of Directors indicate its risk appetite with regard to commercial property loans?

(b) What are the risk exposures of the bank with regard to its commercial property lending?

**4.4.3 Conformance and performance**

The risk appetite of the Board will be affected by attitudes to risk of the Board members, which may favour either risk aversion or risk-seeking.

- **Risk aversion** focuses on the level of risk. An organisation should not undertake a business activity if it results in higher risk, unless the higher expected level of return is sufficient to justify the risk. A risk averse organisation might not undertake a business activity that entails higher risk, even if there is a possibility of higher level of return.

- **Risk seeking** focuses on the level of return, with less concern for the risk. A risk-seeking organisation will undertake a business activity if it results in higher returns, even if the level of risk is also higher, provided the risk is within its level of risk tolerance.

Attitudes to risk should focus on both conformance and performance.

(a) When the focus is on **conformance**, the objective is to keep levels of risk within acceptable limits, through compliance with laws, regulations and best practice governance codes, accountability and the provision of assurance to stakeholders in general. It also seeks to ensure the effectiveness of the risk analysis, management and reporting processes and that the organisation is working effectively and efficiently to achieve its goals.

(b) When the focus is on **performance**, the objective is to take advantage of opportunities to increase overall returns within a business. Strategic decision-making is guided by policies that focus on finding a suitable balance between opportunities and risks, to create value.

Case studies and surveys commissioned by IFAC have shown that many people believe that organisations focus too much on compliance, and not enough on strategy and building a business. IFAC’s 2004 report *Enterprise Governance: Getting the balance right* argued that although compliance is necessary to avoid failure, it cannot ensure success. The report argued that risk management should seek to **balance conformance with performance** – the two enhance each other.
SECTION SUMMARY
This section has explained responsibilities for risk management within a company. The Board of Directors has responsibility for oversight and evaluation of the risk management system, and for deciding the risk appetite for the company's strategies; and executive management is responsible for the implementation of risk management systems and procedures.

For companies with a primary listing, responsibilities for risk management are specified in the Code of Corporate Governance.

5 The COSO Internal Control Framework – Risk Assessment

SECTION INTRODUCTION
We looked at the Control Environment component of the COSO Internal Control Framework in the previous chapter. This section considers the second component of the Framework, that of Risk Assessment.

5.1 The dynamic nature of risk assessment
Risks are continually evolving, which means that a risk management system needs to monitor regularly the risks that are facing the company, to assess how they are changing and whether new measures are needed to deal with them. Risk management procedures and controls therefore need to be adapted over time; otherwise the system of risk management will cease to be effective. The Board should carry out a regular review (at least annually) to satisfy itself that the system remains effective.

Within an organisation, there should be a continuous cycle of risk identification, risk measurement, the development of policies and procedures for managing risk and monitoring the effectiveness of risk management measures.

Risks can arise at any time and in any part of business operations. They may be internal or external risks, and risks that used to be fairly insignificant may develop and become much more serious. The business environment changes continually, and it is important that the process of risk identification and risk assessment should be continual and dynamic.

Risk assessment should be dynamic in the sense that management should be active in looking for risks and planning ways of responding to them.

(a) It should not be a process of reacting to adverse risk events after they have occurred and planning ways of trying to prevent them from happening again. Risk identification is a continuous process, so that new risks and changes that affect existing risks may be identified quickly and dealt with appropriately, before they can cause unacceptable losses.

(b) Many strategic risks are two-way risks, and changes in the business environment may create strategic opportunities rather than threats. An organisation that is on the look-out for opportunities in the business environment will react more quickly than an organisation which waits for events to happen. This creates a further strategic risk – that competitors will be quicker to react to change in the market and gain competitive advantage.
Example

In 2009 Edscha, a German manufacturer of sun roofs, door hinges and other car parts, applied to the courts for insolvency. This unexpected event presented BMW with a crisis. The luxury car-maker was about to introduce a new model of car, the Z4 convertible – and Edscha supplied its roof. The company could not go to another supplier of sun roofs, because this would have taken several months and the company did not want to delay the market launch of the Z4. Having failed to anticipate the risk of insolvency of Edscha, BMW had to react to the adverse event after it had happened. Its only option was to provide Edscha with financial support to keep it in business.

Edscha is still trading today, thanks to the support offered by its main customers. Nevertheless, BMW was so worried about further disruption to its supply chain that it increased staff numbers in its risk monitoring department with specific responsibility for monitoring risks in the company's component-makers.

BMW probably lost money by responding to the risk of insolvency too late. However the company learned its lesson, and invested more resources in risk identification and scanning the business environment for emerging risks.

5.2 The COSO Internal Control Framework – Risk Assessment

As the previous example shows, every organisation will face risks from both internal and external sources. Risk assessment is the foundation for determining how those risks will be managed. Risk assessment needs to be dynamic, with managers considering the effect of changes in the internal and external environments that may render controls ineffective and threaten the achievement of objectives for operations, reporting and compliance.

The first internal control component of the COSO Framework (described in the previous chapter) was the Control Environment. The second component is Risk Assessment. (Refer back to the diagram of the ‘cube’ in the previous chapter if you need to.)

The Principles and related Points of Focus associated with this component are set out below.

<table>
<thead>
<tr>
<th>COSO Principles</th>
<th>Points of focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. The organisation specifies objectives with sufficient clarity to enable the identification and assessment of risks relating to objectives:</td>
<td>21a Reflects management's choices</td>
</tr>
<tr>
<td>Operations objectives</td>
<td>22a Considers tolerances for risk</td>
</tr>
<tr>
<td></td>
<td>23 Includes operations and financial performance goals</td>
</tr>
<tr>
<td></td>
<td>24 Forms a basis for committing of resources</td>
</tr>
<tr>
<td>External financial reporting objectives</td>
<td>21b Complies with applicable accounting standards</td>
</tr>
<tr>
<td></td>
<td>22b Considers materiality</td>
</tr>
<tr>
<td></td>
<td>25 Reflects entity activities</td>
</tr>
<tr>
<td>External non-financial reporting objectives</td>
<td>21c Complies with externally established standards and frameworks</td>
</tr>
<tr>
<td></td>
<td>22c Considers the required level of precision</td>
</tr>
<tr>
<td></td>
<td>25 Reflects entity activities</td>
</tr>
</tbody>
</table>
### COSO Principles and Points of Focus

<table>
<thead>
<tr>
<th>COSO Principles</th>
<th>Points of focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal reporting objectives</td>
<td>21a Reflects management's choices</td>
</tr>
<tr>
<td></td>
<td>22c Considers the required level of precision</td>
</tr>
<tr>
<td></td>
<td>25 Reflects entity activities</td>
</tr>
<tr>
<td>Compliance objectives</td>
<td>21d Reflects external laws and regulations</td>
</tr>
<tr>
<td></td>
<td>22a Considers tolerances for risk</td>
</tr>
<tr>
<td>7. The organisation identifies risks to the achievement of its objectives across the entity and analyses risks as a basis for determining how the risks should be managed</td>
<td>26 Includes entity, subsidiary, division, operating unit and functional levels</td>
</tr>
<tr>
<td></td>
<td>27 Analyses internal and external factors</td>
</tr>
<tr>
<td></td>
<td>28 Involves appropriate levels of management</td>
</tr>
<tr>
<td></td>
<td>29 Estimates significance of risks identified</td>
</tr>
<tr>
<td></td>
<td>30 Determines how to respond to risks</td>
</tr>
<tr>
<td>8. The organisation considers the potential for fraud in assessing risks to the achievement of objectives</td>
<td>31 Considers various types of fraud</td>
</tr>
<tr>
<td></td>
<td>32 Assesses incentives and pressures</td>
</tr>
<tr>
<td></td>
<td>33 Assesses opportunities</td>
</tr>
<tr>
<td></td>
<td>34 Assesses attitudes and rationalisations</td>
</tr>
<tr>
<td>9. The organisation identifies and assesses changes that could significantly impact the system of internal control</td>
<td>35 Assesses changes in the external environment</td>
</tr>
<tr>
<td></td>
<td>36 Assesses changes in the business model</td>
</tr>
<tr>
<td></td>
<td>37 Assesses changes in leadership</td>
</tr>
</tbody>
</table>

### 5.3 Operations objectives

Risk in business means risk to the successful achievement of objectives. Risk assessment determines where controls are most needed, helping the organisation to focus on those risks that have the greatest impact on the achievement of organisational objectives. Principle 6 of the COSO Framework regards the establishment of objectives, at each level of the entity, as a precondition to risk assessment. In other words, in order to identify risks, it is first of all necessary to understand what the objectives are.

Risks occur at all levels within an organisation, from the strategic level down to the day-to-day operational level. At a strategic level, a company will have strategic policy objectives in areas such as financial strategy, competitive strategy, IT strategy, human resources strategy, marketing strategy, purchasing and supply chain strategy, and environmental strategy. Risks are potential events or developments that might threaten the successful achievement of the strategy objectives.

At an operational level, there are objectives for many different areas of operations, such as stores management and goods handling, IT system security, book-keeping systems, advertising campaigns, and so on. There will also be risks to the successful achievement of these objectives.

The risk management process should involve the identification of risks, and assessment of risks to decide which are the most significant in terms of the probability of an adverse risk event and the consequences of such an adverse event.

Principles 6 and 7 of the COSO Framework, beginning with the formulation of objectives, may be illustrated as follows.
Identify the objectives of the strategy, plan or operation
Express these objectives in some detail

Identify the events which could affect the organisation's ability to achieve these objectives: what can go wrong?
If several elements or parts of an objective are identified, consider what can affect the achievement of each element of the objective

Assess the risk in terms of likelihood (probability of occurrence) of an adverse risk event and severity/effect if the event does happen

Decide how to manage each risk

For each risk that is identified, Principle 7 of the framework specifies that analysis needs to be undertaken to provide answers to the following questions:

- What is the risk?
- Why is it a risk?
- What could happen if a risk event occurs?
- What could be the effect on the organisation?

Techniques for risk analysis are covered in more detail in the next chapter as the foundation for a discussion of Control Activities (the third component of the COSO Internal Control Framework).

Example

What are the main objectives of a purchasing department, and what are the risks to the achievement of those objectives?

Solution

Here are some suggestions.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have a continual source of supply for all raw materials and components</td>
<td>The failure of the business of the supplier of an important item of material or component</td>
</tr>
<tr>
<td>To purchase materials of a suitable quality</td>
<td>Materials purchased may be of an insufficient quality, leading to an increase in rejection rates in production and possibly production breakdowns</td>
</tr>
</tbody>
</table>
| To obtain a fair price for purchases | A dominant supplier in the market may put up prices
Prices may vary at different times of the year |
| To obtain prompt deliveries | Purchase orders may be placed with suppliers too late
Suppliers may fail to deliver within the expected time |
| To purchase the appropriate quantity to meet demand | Risk of holding too much inventory (obsolescence)
Stock-outs if insufficient inventory held (and consequential loss of customer to a competitor) |
When risks have been identified in this way, they should be assessed to decide their significance, and suitable risk management procedures may then be introduced.

5.4 Reporting objectives

The link between internal control systems and the objective of reliable and good quality financial reporting is well documented. Management should specify the objectives of financial reporting and, following on from these, the risks to reliable internal and external financial reporting. Issues concerning financial reporting are seen by many investors as crucial, because of their central importance in ensuring management accountability. Increasing international investment and integration of international capital markets has also led to pressure for standardisation of governance guidelines, as international investors seek reassurance about the way their investments are being managed and the risks involved. The board is required to set standards for company statements through their internal control systems.

5.4.1 Non-financial reporting

As well as financial reporting objectives (with an emphasis upon compliance with accounting standards, materiality etc), Principle 6 of the COSO Framework increases the focus on non-financial reporting objectives, with emphasis upon external standards and frameworks and how they apply to the activities of the organisation.

As an example of external non-financial frameworks, in December 2013 the International Integrated Reporting Council (IIRC) published The International Integrated Reporting Framework. The aim of integrated reporting, like Project Sigma's ‘Five Capitals’ model we discussed in Chapter 1, is to demonstrate the linkage between strategy, governance and financial performance and the social, environmental and economic context within which the business operates. By making such linkages, businesses should be able to take more sustainable decisions, helping to ensure the effective allocation of scarce resources.

Sustainability reporting, the publication of environmental, social and governance (ESG) information, has therefore been the subject of increased international focus in recent years and so an effective system of internal control needs to ensure that such non-financial reporting objectives can be met.

Emerging issues

The Global Reporting Initiative is a reporting framework that aims to develop transparency, accountability, reporting and sustainable development. Its vision is that reporting on economic, environmental and social importance should become as routine and comparable as financial reporting.

The GRI's G4 Sustainability Reporting Standards, published in 2016, emphasise the need for organisations to disclose their most critical impact on the environment, society and the economy.

However, the GRI Standards also highlight the importance of generating reliable, relevant and standardised information, with which to assess opportunities and risks, and enable more informed decision-making – both within a business and among its stakeholders.

In response to the GRI guidelines, The Singapore Exchange (SGX) introduced sustainability reporting reporting on a 'comply or explain' basis for all listed companies.

As noted in Chapter 1 earlier in this Textbook, the new rules on sustainability reporting apply to companies with a financial year ending on or after 31 December 2017, with reports published from 2018 onwards. A report should provide an account of a company's consideration and performance of environmental, social and governance issues. The scope of such reports will vary with a company's characteristics, industry-specific concerns, and its risks, but could include:

- Seniority of decision-making on sustainability issues
- Stance on bribery and corruption
- Assessment of sustainability impacts, risks or opportunities
- Risk management policies for environmental and social concerns
- Issues and challenges for the specific industry sector
5.5 Compliance objectives

As part of Principle 6 on the risks relating to objectives, the area of legal and regulatory compliance is highlighted. Internal control systems need to take account of external laws and regulations and support the organisational objective of compliance with them. There is an increasing expectation that accountants have a role to play in ensuring such compliance, and recent pronouncements by ISCA reflect this expectation, demonstrating acceptance by the accountancy profession of a responsibility to act in the public interest.

5.5.1 EP 100 Code of Professional Conduct and Ethics

ISCA issued Ethics Pronouncement (EP) 100, Code of Professional Conduct and Ethics, in November 2015, establishing ethical requirements for members of the Institute.

The detailed guidance begins with establishment of fundamental principles of ethics. These principles are designed to ensure that the accountant fulfils the public interest and meets the expectations of society.

<table>
<thead>
<tr>
<th>Fundamental principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professional competence and due care</strong></td>
</tr>
<tr>
<td><strong>Integrity</strong></td>
</tr>
<tr>
<td><strong>Professional behaviour</strong></td>
</tr>
<tr>
<td><strong>Confidentiality</strong></td>
</tr>
<tr>
<td><strong>Objectivity</strong></td>
</tr>
</tbody>
</table>

The Code does not seek to hinder a professional accountant in business from properly fulfilling his or her responsibility to an employer, but it does address circumstances in which compliance with the fundamental principles may be compromised. It does this by supplying a conceptual framework that requires accountants to identify, evaluate and address ethical threats to compliance with the fundamental principles, applying safeguards to eliminate the threats or to reduce them to an acceptable level.
### Threats to Compliance

<table>
<thead>
<tr>
<th>Threat</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-interest</td>
<td>Financial or other interests of a professional accountant or of an immediate family member inappropriately influence judgement or behaviour.</td>
<td>Financial interests, loans and guarantees, incentive compensation arrangements, personal use of corporate assets, external commercial pressures, acceptance of a gift.</td>
</tr>
<tr>
<td>Self-review</td>
<td>Evaluation of a judgement by the accountant who made the judgement, or a member of the same organisation.</td>
<td>Business decisions being subject to review and justification by the same accountant responsible for making those decisions or preparing the data supporting them.</td>
</tr>
<tr>
<td>Advocacy</td>
<td>Accountant promoting a position or opinion to the point where objectivity may be compromised.</td>
<td>Furthering the employer's cause aggressively without regard to reasonableness of statements made (furthering legitimate goals of employer organisation would not generally create an advocacy threat).</td>
</tr>
<tr>
<td>Familiarity</td>
<td>A close relationship resulting in excessive trust in, or sympathy for, others.</td>
<td>Long association of a business contact.</td>
</tr>
<tr>
<td>Intimidation</td>
<td>Accountant not acting objectively because of actual or perceived pressures.</td>
<td>Threats of dismissal from employment, influence of a dominant personality.</td>
</tr>
</tbody>
</table>

There are two general categories of ethical safeguard against these threats to compliance.

- Safeguards created by the profession, legislation and regulations
- Safeguards within a firm's own systems and procedures

For an accountant working in business, examples of safeguards will include:

- Educational training and experience requirements for entry into the profession
- Continuing professional development requirements
- Corporate governance regulations
- Professional standards
- Professional or regulatory monitoring and disciplinary procedures
- The employer's oversight systems
- The employer's ethics and conduct programmes
- Recruitment procedures
- Strong internal controls, such as that laid out by the COSO Framework
- Appropriate disciplinary processes
- Leadership that stresses ethics
- Policies and procedures that promote and monitor employee performance
- Timely communication of the employer's policies and procedures to all employees
- Training and education of employees
- Whistleblowing provisions
- Consultation with another professional accountant

In other words, a strong control environment.

### 5.5.2 EP 200 Anti-money laundering and countering the financing of terrorism

In response to revisions to the Monetary Authority of Singapore anti-money laundering and countering the financing of terrorism (AML/CFT) framework, EP 200: 'Anti-money laundering and countering the financing of terrorism – requirements and guidelines for professional accountants in Singapore' was issued by the Institute of Singapore Chartered Accountants in November 2014 and was effective from 1 May 2015. It provides a good example of the link between internal control systems and regulatory compliance.

Professional accountants in business in Singapore are mandated to report suspicious transactions to the authorities, and professional accountants in public practice must have appropriate systems, controls and
measures in place to facilitate the identification of suspicious transactions. Customer due diligence measures should be applied by financial institutions to counter AML/CFT risks. The duty to report suspicious transactions overrides any duty of confidentiality to the client and underlines the need for effective internal control systems that can help to ensure that such transactions are detected.

In April 2017, the Singapore authorities launched a new partnership to tackle money laundering and terrorism financing, called the Anti-Money Laundering and Countering the Financing of Terrorism Industry Partnership (ACIP). ACIP is chaired by the Monetary Authority of Singapore (MAS) and the Commercial Affairs Department (CAD), and as well as combatting money laundering and terrorism, it also aims to share information with the private sector and other stakeholders to help financial institutions understand and mitigate the risks.

More generally, when announcing the launch of ACIP, the deputy managing director of financial supervisions at MAS highlighted the importance of financial institutions demonstrating a good understanding of risks, and having a good risk culture within their organisation.

Question 13.3  
**ISCA Code of Professional Conduct and Ethics**

The ISCA Code of Professional Conduct and Ethics contains the following advice.

'A professional accountant in business or an immediate or close family member may be offered an inducement. Inducements may take various forms, including gifts, hospitality, preferential treatment, and inappropriate appeals to friendship or loyalty. Offers of inducements may create threats to compliance with the fundamental principles [of professionalism].'

Executive director and qualified accountant Ann Koo was in charge of awarding large outsourcing contracts for a large public listed company. When her family fell into debt, she looked for a way to make some additional income. When her company was seeking to place a contract for a large outsourced service, without inviting other tenders from which to select, she accepted a bid from one supplier who said it would pay her $50,000 as a ‘thank you’ once the contract was awarded. She justified her behaviour by reminding herself that she obtained her job partly because she was an accountant and that she had worked extremely hard to obtain her accounting qualification. She believed she was entitled to make a ‘higher personal return’ on her investment of time and effort in her accountancy training and through successful qualification as a professional accountant.

**Required**

(a) Briefly describe the five types of ethical threats in the ISCA Code of Professional Conduct and Ethics and discuss how accepting excessive ‘gifts’ or ‘hospitality’ can give rise to some of these threats within this case.

(b) Criticise Ann Koo’s beliefs and behaviour, and explain why accepting the $50,000 conflicts with her duty to uphold the public interest.

5.6 Fraud risk

Principle 8 of the COSO Framework contains an enhanced focus on fraud risk as a separate consideration for internal control systems. All businesses run the risk of loss through the fraudulent activities of employees, including management, and any internal control system which does not adequately consider its likelihood will not be considered to be effective.

The following is a list of possible fraud risks; a number of the signs listed are examples of poor corporate governance procedures, such as domination by one person or pressure on the accounting or internal audit departments.
### Fraud and error

<table>
<thead>
<tr>
<th>Previous experiences which call into question the integrity or competence of management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management dominated by one person (or a small group) and no effective oversight board or committee</td>
</tr>
<tr>
<td>Complex corporate structure where complexity does not seem to be warranted</td>
</tr>
<tr>
<td>High turnover rate of key accounting and financial personnel</td>
</tr>
<tr>
<td>Personnel (key or otherwise) not taking holidays</td>
</tr>
<tr>
<td>Personnel lifestyles that appear to be beyond their known income</td>
</tr>
<tr>
<td>Significant and prolonged understaffing of the accounting department</td>
</tr>
<tr>
<td>Poor relations between executive management and internal auditors</td>
</tr>
<tr>
<td>Lack of attention given to, or review of, key internal accounting data such as cost estimates</td>
</tr>
<tr>
<td>Frequent changes of legal advisors or auditors</td>
</tr>
<tr>
<td>History of legal and regulatory violations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Particular financial reporting pressures within an entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry volatility</td>
</tr>
<tr>
<td>Inadequate working capital due to declining profits or too rapid expansion</td>
</tr>
<tr>
<td>Deteriorating quality of earnings, for example increased risk taking with respect to credit sales, changes in business practice or selection of accounting policy alternatives that improve income</td>
</tr>
<tr>
<td>The entity needs a rising profit trend to support the market price of its shares due to a contemplated public offering, a takeover or other reason</td>
</tr>
<tr>
<td>Significant investment in an industry or product line noted for rapid change</td>
</tr>
<tr>
<td>Pressure on accounting personnel to complete financial statements in an unreasonably short period of time</td>
</tr>
<tr>
<td>Dominant owner-management</td>
</tr>
<tr>
<td>Performance-based remuneration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaknesses in the design and operation of the accounting and internal controls system</th>
</tr>
</thead>
<tbody>
<tr>
<td>A weak control environment within the entity</td>
</tr>
<tr>
<td>Systems that, in their design, are inadequate to give reasonable assurance of preventing or detecting error or fraud</td>
</tr>
<tr>
<td>Inadequate segregation of responsibilities in relation to functions involving the handling, recording or controlling of the entity's assets</td>
</tr>
<tr>
<td>Poor security of assets</td>
</tr>
<tr>
<td>Lack of access controls over IT systems</td>
</tr>
<tr>
<td>Indications that internal financial information is unreliable</td>
</tr>
<tr>
<td>Evidence that internal controls have been overridden by management</td>
</tr>
<tr>
<td>Ineffective monitoring of the system which allows control overrides, breakdown or weakness to continue without proper corrective action</td>
</tr>
<tr>
<td>Continuing failure to correct major weakness in internal control where such corrections are practicable and cost effective</td>
</tr>
</tbody>
</table>
Fraud and error

<table>
<thead>
<tr>
<th>Unusual transactions or trends</th>
<th>Unusual transactions, especially near the year end, that have a significant effect on earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Complex transactions or accounting treatments</td>
</tr>
<tr>
<td></td>
<td>Unusual transactions with related parties</td>
</tr>
<tr>
<td></td>
<td>Payments for services (for example to lawyers, consultants or agents) that appear excessive in relation to the services provided</td>
</tr>
<tr>
<td></td>
<td>Large cash transactions</td>
</tr>
<tr>
<td></td>
<td>Transactions dealt with outside the normal systems</td>
</tr>
<tr>
<td></td>
<td>Investments in products that appear too good to be true, for example low-risk, high-return products</td>
</tr>
<tr>
<td></td>
<td>Large changes in significant revenues or expenses</td>
</tr>
</tbody>
</table>

Problems in obtaining sufficient appropriate audit evidence

<table>
<thead>
<tr>
<th>Inadequate records, for example incomplete files, excessive adjustments to accounting records, transactions not recorded in accordance with normal procedures and out-of-balance control accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate documentation of transactions, such as lack of proper authorisation, unavailable supporting documents and alteration to documents (any of these documentation problems assume greater significance when they relate to large or unusual transactions)</td>
</tr>
<tr>
<td>An excessive number of differences between accounting records and third party confirmations, conflicting audit evidence and unexplainable changes in operating ratios</td>
</tr>
<tr>
<td>Evasive, delayed or unreasonable responses by management to audit enquiries</td>
</tr>
<tr>
<td>Inappropriate attitude of management to the conduct of the audit, eg time pressure, scope limitation and other constraints</td>
</tr>
</tbody>
</table>

Factors unique to an information systems environment

<table>
<thead>
<tr>
<th>Inability to extract information from computer files due to lack of, or non-current, documentation of record contents or programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large numbers of program changes that are not documented, approved and tested</td>
</tr>
<tr>
<td>Inadequate overall balancing of computer transactions and databases to the financial accounts</td>
</tr>
</tbody>
</table>

Over the last few years there have been rapid developments in all aspects of computer technology and these have increased the opportunities that are available to commit a fraud. The most important of the recent developments is increased computer literacy. The use of public communication systems has increased the ability of people outside the organisation to break into computer system. These ‘hackers’ could not have operated when access was only possible on site.

5.7 Identifying changes

Under Principle 9 of the COSO Framework, a key aspect of risk identification is identifying events or changes that could have an impact on strategy or the achievement of the organisation’s objectives.

Changes in a risk can be monitored using early warning indicators. For each risk one or more early warning indicators should be selected, and these should be reviewed regularly. Any change in the indicator above or below an ‘alert’ level should be investigated, with a view to taking control action.

The nature of a risk identifier or early warning risk indicator will vary according to the nature of the risk. For example, an early warning indicator of a fall in output quality by a manufacturing firm, following a change in component supplier for example, would be an increase in the rate of defects above a tolerance limit. The risk of deterioration in service to customers could be monitored by the number of customer complaints, or by the staff turnover rate in the call centre for the customer help line.

In your examination, you may be required to identify risks in a given situation, and suggest early warning indicators for monitoring the risk.
Changes in risk levels or character could arise as a result of changes in the external environment, a new business model or even changes in leadership. Some suggestions are given below.

| External events | The risk of changes in the external environment, or risks arising from changes that have occurred in the external environment, may be difficult to assess. Economic change, political developments, technological advances, shifts in customer tastes and demand and other environmental change may have important implications for strategy. The impact of some changes may be more immediate than others. For example, a company may need to respond to new legislation quickly, whereas a new technological development may take time to have an impact on an industry. Changes in the business environment that may take some time to have effect, and the main issues to consider are:
|                | How could the change in the environment affect the company's business? How immediate is the threat or opportunity? |
| Internal events | Internal events (operational issues) that may be reported include problems with equipment, human errors, difficulties with a product or service, or delays in product development and market launch. However, some problems, such as an increase in equipment failures or a rise in the number and seriousness of human errors, may only become apparent over time. Management may realise that measures already taken to manage the risks may be inadequate. When this happens, the risk should be reviewed, with a view to taking further management action if it has become more significant. |
| Leading event indicators | It is sometimes necessary to identify conditions that could give rise to a risk event. For example, an increase in the amount of trade receivables outstanding beyond their due date for payment is a leading indicator for an increase in payment defaults. Similarly an increase in customer complaints and product returns could be a leading indicator of falling sales. |
| Trends and root causes | Risks may be identified by trends, such as consistently declining levels of cash indicating a risk of future liquidity problems. Where a trend is identified, management should look for the root cause. If the cause of a trend is not apparent from the available data, further analysis of the cause is required. |
| Escalation triggers | An escalation trigger refers to a performance level or control limit. When the performance level is reached or the limit is exceeded, this triggers immediate control action. For example an investment bank may set limits for the maximum amount of loss that is acceptable on a trading position in the financial markets. If the limit is exceeded, and losses grow to more than the acceptable level, procedures will be triggered to close down the position to prevent losses from escalating any further. With escalation triggers, risks can be identified by monitoring the actual position against the trigger performance level or limit. |
| Event interdependencies | It may be important to recognise how one risk event can trigger another. For example, failure to invest sufficiently in new equipment could lead to increases in equipment failures and loss of output, or failure to create sufficient capacity to meet the growth in demand. |
SECTION SUMMARY

This section examined the Risk Assessment component of the COSO Framework – risks to the achievement of objectives in the areas of operations, reporting and compliance, fraud risk and the risks associated with changes to the business environment.

The next sections will consider the nature of strategic, financial and operational risks in more detail. Detailed risk analysis techniques and control activities are the subject of the next chapter.

6 Strategic risks

SECTION INTRODUCTION

This section covers strategic risks and the nature of strategic risks that you may need to identify.

Strategic risks can be grouped into three broad types of risk:

- Risks in the general business environment
- Risks in the industry in which the organisation operates
- Risks from unexpected action by competitors

Although, the term ‘risks’ is used here, remember that some risks are two-way risks and there may be opportunities as well as threats in the business environment.

6.1 Risks in the general business environment

Risks arise in the general business environment in which an organisation operates. They affect many organisations in different industries. They can be divided into further sub-categories using the mnemonics PESTEL, SLEPT or PEST. Here, PESTEL is used to identify six categories of risks in the broad business environment.
### Political and regulatory risks

These are risks that arise from changes in the political environment. The political environment may change dramatically when a new government comes to power, with different policies from the previous government. There may be risks of political unrest in a country, including rebellion and war.

### Economic risks

Economic risks are risks arising from changes in economic conditions, such as the risks from increases or reductions in the rate of growth in the national or global economy, or a change in the rate of price inflation.

Currency risk is an aspect of economic risk. Due to unforeseen changes in economic conditions, a national currency may increase or fall in value against other currencies. For the Singapore economy, a significant risk could be the risk of a fall in the value of the Singapore dollar.

### Social risks

Social risks are risks arising from changes in social attitudes and habits. These can have a substantial impact on demand for products and services.

Demographic change may also create risks for a business, since changes in the age distribution of a population can lead to demand for different products (such as health care when the population is ageing) or even the availability of people for employment.

### Technological risk

Technological risk is risk (and business opportunity) arising from new technology. There are constant changes in IT and communications technology, but technological change occurs in other areas too, such as medical science and food manufacture.

Rapid technological change can threaten the survival of companies that are slow to respond. For example, the dominance of Nokia as a provider of mobile phones was quickly eroded by the development of the smartphone by companies such as Apple, Samsung and Huawei.

### Ecological/environmental risks

Changes in the environment may also have strategic implications for business. For example the erosion of forest land has long-term implications for the use of wood as a natural resource by manufacturing companies.

The general public may also have strong views about threats to the environment from pollution and the over-consumption of scarce natural resources. There may be risks to a company from changing consumer attitudes to toxic waste and pollution of water, air and land.

### Legal risks

These are risks that arise from changes in laws and regulations. Any risk of changes in the law or regulations could affect companies, such as changes in employment law, company law or the law on consumer protection.

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**Question 13.4**

What are the possible consequences of technology risk for a company?
6.2 Risks within the industry

Some changes create risks for all the companies operating in a particular industry, and the most successful competitors are those who respond to the changes most effectively.

It may be useful to think about industry risks in terms of risks relating to:

- The supply of raw materials or skilled labour to the industry
- Regulation of the specific industry
- Customer demand for products or services provided by the industry

The supply of raw materials for an industry may be threatened by:

- **Commodity supply risk.** This is the risk that there will be insufficient supply of a commodity or raw material to meet demand from all the companies in the industry. An example is the risk from shortages of rare minerals or processed metals (such as iron or steel) and shortages of food commodities.
  
  A company may need to consider the use of alternative materials if it intends to survive over the longer term.

- **Commodity price risk.** When there is risk from restricted and diminishing supply of commodities, there will also be implications for higher prices of purchased materials and so higher costs for the businesses that use the materials.

Risks from regulation were included in the previous checklist of risks in the general business environment (political and legal risks). However, some risks of legal or regulatory change apply to specific industries, sometimes in particular countries. For example:

- Following the global financial crisis in 2007 – 2008, the global banking industry has been subjected to stricter regulation of their capital adequacy and liquidity, to improve the financial stability of banks and reduce the risks of widespread banking failures. These regulations have important implications for the measures needed by banks to manage their risks, and also for the profitability of the banking industry.

- Regulations restricting the use of tobacco products in some countries have restricted the market and companies have responded to this risk by expanding in countries which do not have legislation against tobacco products and by developing tobacco-free substitutes for cigarettes.

There may be risks of changes in customer demand as a young industry expands rapidly or a well-established industry goes into decline. For example:

- The future of the printing industry is at risk from the growth in on-line reading materials, including on-line books.

- The future of retail shops is at risk from changes in customer preferences for on-line shopping.

- The future of the music industry has been threatened for some years by falling consumer demand for compact discs. Downloads threaten the margins available to the industry as a whole.

6.3 Competitor risk

Competitor risks are the threats arising from the actions of competitors. Obvious examples are:

- Competitors introducing a new product that is better than your product
- Competitors reducing the price of their product so that it is cheaper than yours
- The possibility that a new competitor will enter the market

Actions by competitors can lead to lower profits and loss of market share.
SECTION SUMMARY

Strategic risks are varied in nature, but organisations need to recognise these risks and consider the consequences for strategy, the value of the business and profitability.

7 Financial risks

SECTION INTRODUCTION

This section covers financial risks and the nature of financial risks that you may need to identify and measure.

Financial risks that could have a significant effect on a business include:

(a) Sales revenue risks: There may be a risk of a slow-down in sales revenue growth, or even a decline in annual sales. Alternatively there may be a risk of losing a major customer. Risks of changes in the rate of sales revenue growth may be evident in historical figures for annual sales, and the trend (growth or decline) that these show.

(b) Costs and risks from higher costs: Risks from rising costs may take the form of:
   - An expected increase in the general rate of price inflation
   - Rising costs for a key item, such as the cost of a raw material or commodity, or costs of energy
   - High costs due to poor efficiency or low productivity, or high wastage rates
   - High average costs because the organisation has high fixed costs and actual output capacity is low

(c) Profitability risks: Management of a business organisation should be continually aware of risks to profitability. These arise from either disappointing sales revenue or higher-than-expected costs. The risk of a fall in profitability and earnings could have implications for the share price of a quoted company, and also its credit rating.

(d) Liquidity risks: An organisation may be profitable but at the same time suffer from a shortage of liquidity and negative cash flows. Risks to liquidity may come from a variety of sources, such as high capital expenditure, high dividend payments, the need to service interest payments on borrowing or repay a loan or redeem a bond at maturity. By anticipating liquidity and cash flow problems, a business may be able to take measures in advance to secure additional funding and cash.

(e) Excessive investment: A company may have an excessive investment in assets, possibly because of over-capacity. This will affect overall return on capital or residual income.

(f) Credit risk: Credit risk has been referred to previously. This is the risk that customers will not pay what they owe, may not pay in full or may not pay on time. For many organisations, credit risk is a significant financial risk.

The emergence of financial risks for an organisation may be identified from an analysis of financial performance and trends. For example:

- Trends showing a decline in sales revenue growth over a period of years
- Trends showing a decline in return on capital employed over a number of years
- Falling gross profit margins and/or net profit margins over a number of years
- An increase in irrecoverable debts as a percentage of sale revenue
- Changes in comparative ratios for different segments of the business or different products
- Changes in capital structure over time, as measured by ratios such as a gearing ratio or interest cover ratio
- A decline in free cash flow for the organisation over a given time period

7.1 Market risk

Market risk is risk arising from changes in market prices. In the banking industry it refers specifically to unexpected changes in the market prices of financial items, and particularly:

- Interest rates
- Exchange rates
- Share prices
- Commodity prices

Changes in interest rates have a direct effect on the market prices of bonds and also many financial derivative instruments. If long-term interest rates rise, bond prices fall. Bond prices rise when interest rates fall.

Companies with large investments in shares are affected by share price risk, and companies operating in the commodity markets are affected by commodity price risk. For most large non-bank companies, the most significant financial market risks are interest rate risk and currency risk (or foreign exchange risk).

(a) For companies with large amounts of debt capital, the risk of a rise or fall in interest rates could have a significant effect on profitability. If a company has large amounts of debt at a variable rate of interest, you can calculate the effect on profitability of a 1% increase in interest rates. This simple sensitivity analysis would allow you to assess the scale of the risk. Interest rate risk is a two-way risk – interest rates can move favourably as well as adversely.

(b) For companies that operate internationally, currency risk is an ever-present problem. Like interest rate risk, currency risk is a two-way risk – exchange rates can move favourably as well as adversely. However significant movements in an exchange rate can affect the profitability of a business.

- For a company that obtains much of its revenue in a foreign currency, there is a risk of a fall in the exchange value of that currency, in both the short term and the long term.
- For a company that imports a large proportion of its materials or capital equipment and pays in a foreign currency, there is a risk of rising costs from depreciation in the value of the company's domestic currency. This would make imports more expensive.

**SECTION SUMMARY**

Financial risks affect profitability, liquidity and financial stability. Risks may only become apparent from analysis of financial performance.
8 Operational risks

SECTION INTRODUCTION

This section covers operational risks and the nature of operational risks that you may need to identify and assess.

Operational risks are risks of losses arising from a failure of internal business processes and internal controls. They are mostly downside risks, and internal controls are applied to deal with them. Internal control systems are described in a later chapter.

It may be useful to think about operational risks in terms of risks to:

(a) Efficiency and operational capacity
(b) Effectiveness in achieving operational targets

They are risks arising within the business, and so should be subject to management control. Operational risks also have implications for costs and profits; therefore the same source of risk may be both a financial risk and an operational risk.

Risks to operational efficiency or operational capacity may be identified through measures of performance, such as changes in:

- Output per man-hour
- Revenue per person per day
- Waste as a percentage of materials used
- Capacity utilisation

These measures can indicate the consequences of operational risks, but not their causes. If you are given data that indicates problems with efficiency or capacity of operations, you will need to consider reasons why these changes may have happened.

Risks to effectiveness may be identified through measures such as:

- Actual achievements compared with targeted achievements or objectives
- Delays in completion of projects

Again, these measures may help to identify the consequences of failure to achieve objectives (such as meeting deadlines for completion of a task) but they do not explain the causes.

8.1 Strategic implications of some operational risks

An organisation should also be aware of risks within the organisation itself that may be significant weaknesses or strengths and that are risks of a strategic nature.

(a) A poor relationship with stakeholders can be a significant strategic risk because of the consequences of non-cooperation. For example dissatisfied shareholders may refuse to provide funds when the company wants to make a new share issue; suppliers may be unsympathetic to demands by the company for faster delivery times or better credit terms; dissatisfied employees may take action by taking strike action, working to rule or resigning and leaving the company. Organisations must be aware of the key factors that may lead to problems in relations with stakeholders:

- Investors will be concerned with financial returns, accuracy and timeliness of information and quality of leadership
- Relations with suppliers and employees will be influenced by the terms and conditions of business. With employees, the organisation also needs to consider whether they have the appropriate knowledge and attitudes
• Customers will obviously be influenced by the **level of customer service**, also product safety issues and perhaps whether the organisation is 'ethical' in matters such as marketing practice.

(b) An organisation may be at risk of a shortage of a key resource or skill. For example there may be a risk from:

• Inability to recruit, train or keep skilled labour, such as qualified engineers or software specialists
• A poor track record of successful product innovation
• Problems with marketing or distribution operations

(c) **Reputation risk.** An organisation may be at risk from a loss of reputation. The loss of reputation will be usually perceived by external stakeholders, such as investors and customers. A loss of reputation may have serious consequences, depending on the **strength of the organisation's relationship** with its stakeholders, and the organisation's actions in response to any event that damages its reputation.

**Example**

Toyota responded to concerns over the safety of its cars by recalling millions of models worldwide during 2009 and 2010. The actions by Toyota resolved risks to health and safety, but the action was taken only after problems emerged for car users in the USA. Sales of several Toyota models were suspended for a time in the USA, and there were reports that consumer confidence in Toyota models had been seriously damaged.

The company may have been ineffective in limiting the damage the risks to its reputation. Commentators highlighted an initial reluctance to admit the problem and poor communication of what the company intended to do to regain control of the situation. The impact threatened car sales and share price, with investors reluctant to hold Toyota shares because of the level of uncertainty involved.

Damage to reputation may last for only a short time, but during that time significant losses may occur through costs of correction and loss of sales.

**Example**

A company plans the development and installation of a major new IT system.

• The choice of cloud computing (using internet-based applications and/or data storage) or hardware and software is a strategic decision and risks at this stage are strategic risks. If the choice is sub-optimal, the consequences may not become apparent for some time, possibly a few years. The risks are **strategic risks**. The risks should be recognised when the decisions on the IT system are made, but the organisation accepts the risk, which is justified by the expected benefits from the IT system.

• The project to install the new hardware and software introduces new risks, which are **financial and operational** in nature. Risks within the project must be managed, to ensure that the project is delivered on time, within budget and to specification.

• When the system has been installed, it will be vulnerable to new **operational risks**, such as the risks of system breakdown, software failure, hacking/unauthorised access, loss of data, virus attacks and operator errors. These operational risks may be significant, and management may need to implement control procedures to minimise the potential disruption and losses.

**Question 13.5**

**Risks in the environment**

In July 20X0, Ferry Company purchased exclusive rights to operate a car and passenger ferry route until December 20X9. This offers an alternative to driving an additional 150 kilometres via the nearest bridge...
crossing. There have been several ambitious plans to build another bridge crossing but they have failed through lack of public support and government funds.

Ferry refurbished two 20-year old roll on, roll off (‘Ro-Ro’) boats to service the route. The boats do not yet meet the emission standards of Environmental Protection Regulations which come into force in two years’ time, in 20X6. Each boat makes three return crossings every day of the year, subject to weather conditions, and has the capacity to carry approximately 250 passengers and 40 vehicles. The ferry service carried 70,000 vehicles in the year to 31 December 20X3 (20X2: 58,000; 20X1: 47,000). The service operates 360 days each year.

Hot and cold refreshments and travel booking facilities are offered on the one-hour crossing. These services are provided by independent businesses on a franchise basis.

Ferry currently receives a subsidy from the local transport authority as an incentive to increase market awareness of the ferry service and its efficient and timely operation. The subsidy increases as the number of vehicles carried increases and is based on quarterly returns submitted to the authority. Ferry employs 20 full-time crew members who are trained in daily operations and customer-service, as well as passenger safety in the event of personal accident, collision or breakdown.

The management of Ferry is planning to apply for a recognised Safety Management Certificate (SMC) in 20X5. This will require a ship audit including the review of safety documents and evidence that activities are performed in accordance with documented procedures. A SMC is valid for five years when it is issued.

**Required**

Identify and explain the risks facing Ferry in the business environment which should be assessed.

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### SECTION SUMMARY

This section has explained how operational risks may affect performance and may also have implications for strategy. Many operational risks are managed through internal controls. Internal controls and internal control risks are covered in a later chapter.

### 9 Compliance risks

Compliance risks are risks associated with failure to comply with laws, regulations or established procedures. They have both an operational and a strategic aspect.

- **Operationally,** compliance risks are risks that an organisation (and its employees) will fail to comply with established procedures that are designed to ensure compliance with a law or regulation. There may also be a risk that established procedures for achieving compliance are ineffective and do not achieve their intended purpose, so that non-compliance occurs.

- **Strategically,** compliance risks arise from the possibility that laws or regulations will be changed, so that new compliance procedures must be devised and implemented. In some industries that are heavily regulated, there is also a risk that a regulator will decide that the organisation is failing to comply with regulations.

An example of the strategic aspect of compliance risks can be seen in the pharmaceuticals industry, and the need for companies producing medicines and drugs to comply with the many regulations for ensuring their safety. Global pharmaceuticals companies have to deal with many different regulators, at international, regional and national level, and the differing regulatory requirements of the various regulators. The risks of non-compliance are mitigated as far as possible by a pharmaceuticals company by maintaining continual dialogue with each of the regulators, so that they understand regulators’ main concerns (and future regulatory intentions).
SECTION INTRODUCTION

This section covers compliance risks and the nature of compliance risks that you may need to identify and assess.

9.1 Implications of compliance risks

As we mentioned earlier in the chapter, failing to comply with laws and regulations, or with expected standards of behaviour, could have significant implications for an organisation. These can be grouped into four main categories:

- **Legal impact**: Legal or regulatory action brought against a company, or its management, could result in fines or other financial penalties, or imprisonment.
- **Financial impact**: The negative impact of regulatory or legal action could affect a company’s profits, share price, potential future earnings, and consequently investor confidence in it.
- **Business impact**: Failure to comply with regulatory requirements could lead an organisation’s factories being shut down, or embargoes being placed on its products, thereby significantly disrupting its ability to operate (thereby reinforcing the negative financial impact).
- **Reputational impact**: The negative publicity arising from non-compliance may damage an organisation’s reputation or brand, and could lead to a loss of customer trust in it.

SECTION SUMMARY

This section has highlighted the threat which violating laws, regulation and other organisational standards or codes of conduct presents to an organisation. As stakeholder expectations of companies increase, and as national and international regulations proliferate, the level of compliance risk companies face also increases.

Emerging trends and current issues

The Singapore Accountancy Commission and a research team from the National University of Singapore (NUS) produced a study: ‘Risks & Opportunities Management Disclosure Guide’. This provides guidance for preparers of reports on the information needs of their stakeholders with regard to risks and opportunities.


10 Appendix: COSO Internal Control Framework and COSO ERM Framework – Principles

The table below lists the 17 principles of the COSO Internal Control Framework (2013) and the 20 principles of the Enterprise Risk Management (2017). The Principles are listed in the order they appear in their respective Framework documents, but this does not mean principles with the same number are related to each other.
The purpose of this table is to provide a reference for identifying both similarities and differences between the two Frameworks, reinforcing the point that although ERM and internal control are necessarily related, they are not interchangeable.

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<tbody>
<tr>
<td><strong>Control Environment</strong></td>
<td><strong>Governance and culture</strong></td>
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<tr>
<td>1. The organisation demonstrates a commitment to integrity and ethical values</td>
<td>1. The board of directors provides oversight of the strategy</td>
</tr>
<tr>
<td>2. The board of directors demonstrates independence from management and exercises oversight of the development and performance of internal control</td>
<td>2. The organisation establishes operating structures in the pursuit of its strategy and business objectives</td>
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<tr>
<td>3. Management establishes, with board oversight, structures, reporting lines and appropriate authorities and responsibilities in the pursuit of objectives</td>
<td>3. The organisation defines the desired behaviours that characterise its desired culture</td>
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<tr>
<td>4. The organisation demonstrates a commitment to attract, develop and retain competent individuals in alignment with objectives</td>
<td>4. The organisation demonstrates a commitment to its core values</td>
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<tr>
<td>5. The organisation holds individuals accountable for their internal control responsibilities in the pursuit of objectives</td>
<td>5. The organisation is committed to attracting, developing and retaining capable individuals in alignment with its strategy and business objectives</td>
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<tr>
<td><strong>Risk Assessment</strong></td>
<td><strong>Strategy and objective-setting</strong></td>
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<tr>
<td>6. The organisation specifies objectives with sufficient clarity to enable the identification and assessment of risks relating to objectives</td>
<td>6. The organisation considers the potential effects of business context on risk profile</td>
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<td>7. The organisation identifies risks to the achievement of its objectives across the entity and analyses risks as a basis for determining how the risks should be managed</td>
<td>7. The organisation defines risk appetite in the context of creating, preserving and realising value</td>
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<tr>
<td>8. The organisation considers the potential for fraud in assessing risks to the achievement of objectives</td>
<td>8. The organisation evaluates alternative strategies and their potential impact on its risk profile</td>
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<tr>
<td>9. The organisation identifies and assesses changes that could significantly impact the systems of internal control</td>
<td>9. The organisation considers risk while establishing the business objectives, at various levels, that align and support strategy</td>
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<tr>
<td><strong>Control activities</strong></td>
<td><strong>Performance</strong></td>
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<tr>
<td>10. The organisation selects and develops control activities that contribute to the mitigation of risks to the achievement of objectives to acceptable levels</td>
<td>10. The organisation identifies risk that affects the performance of strategy and business objectives</td>
</tr>
<tr>
<td>11. The organisation selects and develops general control activities over technology to support the achievement of objectives</td>
<td>11. The organisation assesses the severity of risk</td>
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<tr>
<td>12. The organisation deploys control activities through policies, that establish what is expected, and procedures that put policies into action</td>
<td>12. The organisation prioritises risks as a basis for selecting responses to risks</td>
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<td></td>
<td>13. The organisation identifies and selects appropriate risk responses</td>
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<td>14. The organisation develops and evaluates a portfolio view of risk</td>
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<tr>
<td><strong>Information and Communication</strong></td>
<td><strong>Review and revision</strong></td>
</tr>
<tr>
<td>13. The organisation obtains or generates and uses relevant, quality information to support the functioning of other components of internal control</td>
<td>15. The organisation identifies and assesses changes that may substantially affect its strategy and business objectives</td>
</tr>
<tr>
<td>14. The organisation internally communicates information, including objectives and responsibilities for internal control, necessary to support the functioning of other components of internal control</td>
<td>16. The organisation reviews its performance and considers risks</td>
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<tr>
<td>15. The organisation communicates with external parties regarding matters affecting the functioning of other components of internal control</td>
<td>17. The organisation looks to continuously improve its enterprise risk management</td>
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<tr>
<td><strong>Monitoring Activities</strong></td>
<td><strong>Information, communication and reporting</strong></td>
</tr>
<tr>
<td>16. The organisation selects, develops, and performs ongoing and/or separate evaluations to ascertain whether the components of internal control are present and functioning</td>
<td>18. The organisation leverages its information systems and technology to capture, process and manage data and information to support ERM</td>
</tr>
<tr>
<td>17. The organisation evaluates and communicates internal control deficiencies in a timely manner to those parties responsible for taking corrective action, including senior management and the board of directors, as appropriate</td>
<td>19. The organisation uses communication channels to support ERM by sharing information</td>
</tr>
<tr>
<td></td>
<td>20. The organisation reports on risk, culture and performance at multiple levels across the entity</td>
</tr>
</tbody>
</table>
Risk identification

Business risk
- Negative Risk
  - Internal
    - Operational
      - Efficiency
      - Effectiveness
    - Financial
  - External

Risk Management
- Responsibilities for risk management
- Internal control
- ERM
  - COSO
  - IFAC

Identification
- Methods
- Risk registers
- Inspections
- Brainstorming
- Scenario analysis
- Research
- Stakeholders
- ISO 31000 model

PESTEL
- Market risk
- Other
  - Sales revenue
  - Cost
  - Profitability
  - Liquidity
  - Excessive investment
Quick Quiz

1. What is the difference between pure risks and speculative risks?
2. Risk-averse businesses always seek to minimise the levels of risk that they face.
   True or false?
3. Which of the following would normally be classified as an operational risk?
   A. The risk that a new product will fail to find a large enough market
   B. The risk of competitors moving their production to a different country and being able to cut costs
   C. The risk that a senior manager with lots of experience will be recruited by a competitor
   D. The risk of resource depletion meaning that new sources of raw materials will have to be found
4. List three strategic risks that might be associated with the internet.
5. Give three examples of short-term financial risks.
6. What is a risk register?
7. What is a leading event indicator?
8. What is the difference between cause and effect for the purpose of risk identification?
9. What are the five components in COSO’s (2017) Enterprise Risk Management Framework?
10. What does ‘ESG’ stand for in the context of sustainability reporting?
11. What does Principle 8 of the COSO Internal Control Framework provide for?
12. What is the meaning of the term ‘dynamic’ when it comes to risk management?
Answers to Quick Quiz

1. Pure risks relate to risks where the outcome may be worse than expected but cannot be better than expected. Speculative risks are two-way risks, where future events or changes may be either favourable or adverse.

2. False. Risk-averse businesses may be prepared to tolerate risks provided they receive appropriate returns and the risks are within their risk tolerance.

3. C. Loss of a senior manager would be an operational risk. The other risks are strategic risks.

4. Hackers accessing the internal network; staff downloading viruses; staff downloading or uploading inaccurate information; information being intercepted; the communication link breaking down or distorting data.

5. Credit risk, liquidity risk/cash flow risk, risk of higher costs and falling profitability, risk of excess borrowing.

6. A file for recording risks that have been identified and investigated. For each risk there should be a description of the risk and its potential consequences, a monetary value, the name or position of the manager responsible and a record of any action taken to manage the risk and the results of the action. There may be several risk registers.

7. An event or development that provides an indication of another consequence that will follow on at some time in the future. For example an increase in overdue payments by customers is a leading indicator of a rise in defaults and irrecoverable debts.

8. The effect is the consequence of a change or risk event after it occurs. The cause is the reason why the effect has happened. Risk identification may identify effects from an analysis of trends, but the risk manager should look for the cause.

9. Governance and culture
   Strategy and objective-setting
   Performance
   Review and revision
   Information, communication and reporting

10. Environmental, social and governance issues.

11. That the organisation considers the potential for fraud in assessing risks to the achievement of objectives.

12. Management should be active in looking for risks, and planning ways of responding to them, as part of an ongoing process.
Answers to Questions

13.1

(a) The Board of Directors should indicate its risk appetite by indicating whether it wants the bank to continue lending extensively to real estate companies for commercial property loans. It should quantify its risk appetite for commercial property lending by indicating the amount of new lending the bank should consider, or a maximum size for the bank's commercial property loan portfolio. Specific lending limits would indicate the bank's risk tolerances.

(b) The biggest risk facing the bank would seem to be the risk of falling commercial property prices. This risk links to:

- **Credit risk.** If property prices collapse, the bank will almost certainly suffer losses from extensive defaults by borrowers. Security (collateral) for the loans would be insufficient, because the property providing the security could be valued at less than the amount of the loan, due to the fall in prices.

- **Concentration risk.** The bank may have provided excessive loans to the commercial property sector, so that far too much of its total lending portfolio is concentrated in this area of lending. Large losses on commercial property loan could affect the financial stability of the bank.

The bank also has exposures to other financial risks:

- **Interest rate risk.** The bank's lending is largely at a fixed rate of interest. There is a risk that if interest rates rise, the bank's funding costs will rise but interest income from lending may be largely fixed. This would reduce profit margins.

- **Currency risk.** Most commercial property loans are in US dollars. Unless the bank also has funding in US dollars, there is a risk that a fall in the value of the US dollar would result in losses due to a fall in the value of the bank's US dollar assets (loans) and interest income.

13.2

**Importance of financial reporting**

Shareholders rely on financial reporting as the basis for making decisions about their investment in the company. They therefore need to have confidence in this information. To provide shareholders with this assurance, most corporate governance codes require companies to report on controls over financial reporting.

**Information systems**

Effective internal controls should ensure that companies produce timely, relevant and reliable information that underpins accurate financial accounts and aids management decision-making. Controls ensuring that assets and transactions are recorded completely and appropriately measured, accounting entries are recorded correctly and that cut-off has been applied properly should ensure that systems produce information that can be trusted and that uncertainties surrounding figures are minimised.

**Personnel**

Effective personnel controls can help give significant assurance about financial reporting. They can ensure that accountability for key tasks such as producing information is clearly defined. Controls can ensure that organisational structures have segregation of duties built in as an important check on activities. They should also ensure that staff have sufficient knowledge and competence for the tasks that they undertake, in particular that everyone is well-briefed on current financial reporting requirements.
Audit trail

Financial reporting controls should also assist in providing a detailed audit trail that can be followed by internal or external auditors. This should make it easy for auditors to analyse the reliability and correctness of the information provided and means that their work can provide greater assurance. If auditors find errors, a detailed audit trail may make it easier to assess how the errors occurred and make correction of errors easier.

13.3

(a) Self interest threat

A self-interest threat occurs when accountants' decisions are influenced by their own interests, or those of close family members.

Self review threat

A self-review threat is when decisions and judgements are reviewed by the same accountant who made them or who prepared the data supporting them.

Advocacy

Advocacy is when accountants promote a position or opinion to so great an extent that their objectivity appears to be compromised.

Familiarity

Familiarity is when a close or long-standing friendship undermines the objectivity of an accountant's judgements.

Intimidation

Intimidation is an accountant being deterred from acting objectively by actual or perceived threats.

Application to case

Self-interest

Ann has clearly acted in her own self-interest, by letting her decision to choose the supplier be influenced by her family's financial needs. It has meant that she has failed to show objectivity when taking the decision and not acted with integrity.

Advocacy

Ann's objectivity may also be impaired by having to justify her decision and defend the behaviour of the supplier if the supplier does not perform adequately. She may continue to defend the supplier's interests even though it is best for her company to take action against the supplier.

Intimidation

Ann may also face a threat of intimidation. The supplier, or someone else who gains knowledge of the bribe, may attempt to blackmail Ann by threatening to reveal that she took a bribe. This could mean that further decisions she makes are influenced by the threat of her conduct being revealed. She may be pressurised into awarding further contracts to the supplier, even though this is not in the best interests of her company.
(b) **Criticisms of Ann's beliefs and behaviour**

**Illegality**

The first criticism is that Ann has deliberately acted illegally in taking a bribe. Accountants have a duty to obey the law, even if it conflicts with their own interests. What makes Ann’s behaviour more serious is that many governments have recently tried to promote the interests of society by strengthening anti-bribery laws, sending a clear signal that bribery should not be tolerated.

**Fairness**

Ann has not acted fairly by deciding between the competing contractors on the basis of her personal interest, rather than the objective criteria of the value that they offer.

**Best interests of shareholders**

Ann has not acted in the interests of her employers and the shareholders whose interests she is expected to promote. Their interests require that Ann should have ensured that all bidding suppliers had an equal chance to win the contract. Fair competition between suppliers would have offered Ann’s employers the best chance of achieving value for money.

**Public interest**

Ann has taken on responsibilities as a company director and an accountant which mean that others rely on the work that she does. In accepting these roles, Ann has a duty not to put her own interests first if they conflict with the interests of society.

13.4

A company may be affected by technology risk in several different ways.

- A company may be slow to use a new technology in its operations. If the new technology is successful, rival companies could gain a competitive advantage by using the technology earlier.

- A company may decide to invest in a new technology, only to find that it is much less popular than expected with customers.

- A company may expect to sell its existing technology products to customers in a developing economy country, only to find that its products are made obsolete by a new technology that is provided to the developing country market by other companies.

- A company may fall behind its rivals in the development of an existing technology, such as the use of new versions of computer software.

- There may be two different and competing technologies to choose from, and there is a risk of choosing the technology that will prove inferior or less popular. This risk can affect companies that manufacture products where there is a choice between two technologies (such as high definition digital televisions).

- The potential cost of investing in new technology may be a serious risk for financing and profitability.

Technological risk is greater when the pace of technological change is faster.
The following table summarises business risks that may be identified in the data.

| Political and regulatory | Risk that the government may decide to build a new bridge, in spite of previous failures.  
Risk that local transport authority may remove subsidy. |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|
| Environmental            | Environmental regulations come into force in two years' time: risk that the boats will not meet minimum regulatory standards.  
The environmental standards may be further enhanced. |
| Legal                    | The business is protected by exclusive rights that run out in about six years' time. Risks that rights will not be extended beyond December 20X9. |
| Industry analysis        | Is there sufficient demand for the service? Risk of insufficient demand.  
Evidence: Lack of public support for bridge.  
Annual capacity = 2 boats × 6 crossings per day × 40 vehicles × 360 days = 172,800 car journeys. Actual sales demand in 20X3 = 70,000 = 40.5% of capacity. Is this sufficient to sustain a profitable business, even allowing for future growth (20.7% in 20X3).  
| Inadequacy of data       | More information is needed about revenues, costs and demand forecasts in order to assess the business risk more confidently. |
In this chapter we look at how managers evaluate risks that have been identified, and the techniques or approaches that may be used. Risk analysis can give management a good indication of the possible consequences of a risk event. This allows them to evaluate and prioritise risks, and to decide how the risks should be controlled.

When risks have been identified, analysed and evaluated, risk response and treatment measures in the form of control activities are selected and implemented. Risks and the effectiveness of risk management should be monitored continually, because the risk environment is continually changing.
<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment and Measurement of Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Explain the concepts of assessing the severity and probability of risk events.</td>
<td>2</td>
</tr>
<tr>
<td>Describe and evaluate a risk assessment framework.</td>
<td>3</td>
</tr>
<tr>
<td>Apply appropriate risk measurement techniques and explain the application of risk management.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Risk Management and Modelling</strong></td>
<td></td>
</tr>
<tr>
<td>Explain how business organisations use policies and techniques to mitigate various types of strategic, operational and financial risks</td>
<td>2</td>
</tr>
<tr>
<td>Explain and assess the importance of risk transfer, avoidance, reduction and acceptance.</td>
<td>3</td>
</tr>
<tr>
<td>Explain and assess the necessity of risk-taking as part of managing an organisation.</td>
<td>3</td>
</tr>
<tr>
<td><strong>The COSO Internal Control Framework</strong></td>
<td></td>
</tr>
<tr>
<td>Identify and describe the Components of the Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities.</td>
<td>3</td>
</tr>
<tr>
<td>Demonstrate how an organisation should implement the seventeen Principles.</td>
<td>3</td>
</tr>
<tr>
<td>Explain how the Points of Focus should be applied.</td>
<td>3</td>
</tr>
<tr>
<td>Determine whether the Components and Principles are ‘present and functioning’.</td>
<td>3</td>
</tr>
<tr>
<td>Explain how deficiencies in internal control should be assessed and addressed.</td>
<td>3</td>
</tr>
<tr>
<td>Evaluate the role that technology plays in internal control.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Emerging Trends and Current Issues</strong></td>
<td></td>
</tr>
<tr>
<td>Summarise the key issues in relation to both domestic and international emerging trends and current issues.</td>
<td>1</td>
</tr>
</tbody>
</table>
1 Risk analysis

SECTION INTRODUCTION

This section explains the nature of risk analysis and its position within a risk management framework for an organisation.

When risks have been identified, the next stage in the process is risk analysis – deciding whether action is needed to deal with the risk. This is covered by Principle 7 of the updated COSO Framework, which states: ‘The organisation identifies risks to the achievement of its objectives across the entity and analyses risks as a basis for determining how the risks should be managed’. The identification of risks was the subject of the previous chapter, and we will consider both the analysis of risk and control activities (which help to mitigate risks) in this chapter.

Risk analysis involves consideration of:

- The potential consequences for the business if the risk materialises (positive or negative impact), and
- The likelihood or probability that those consequences will occur.

ESSENTIAL READING


at COSO Internal Control – Integrated Framework – May 2013, Executive Summary available at [http://www.coso.org/documents/990025P_Executive_Summary_final_may20_e.pdf](http://www.coso.org/documents/990025P_Executive_Summary_final_may20_e.pdf)


Personal Data Protection Act 2012, available at [http://statutes.agc.gov.sg/aol/search/display/view.w3p;page=0;query=DocId%3Aea8b8b45-51b8-48cf-83bf-81d01478e50b%20%20Depth%3A0%20Status%3Ainforce;rec=0](http://statutes.agc.gov.sg/aol/search/display/view.w3p;page=0;query=DocId%3Aea8b8b45-51b8-48cf-83bf-81d01478e50b%20%20Depth%3A0%20Status%3Ainforce;rec=0)


Risk analysis can therefore be used to produce a risk profile that:

- Rates each risk according to its significance, and
- Prioritises them for treatment with control mechanisms

There should be established risk measurement and assessment procedures throughout the organisation to ensure that all value-adding activities and risks arising from these activities have been evaluated. The process can also be used to identify where controls might be increased, decreased or the investment in risk controls re-apportioned.

At an operational level, risk assessment improves the effectiveness and efficiency of operations by identifying the risks that are most in need of attention by management.

### 1.1 Severity and frequency of risk events

For many risks, the significance of the risk can be measured or analysed in terms of its severity and frequency.

(a) **Severity or impact** is the potential loss that may occur from an adverse risk event (or the potential gain from a favourable risk event). It may be measured either as the maximum possible loss (or benefit) or as the most likely amount of loss.

(b) **Frequency or probability** is a measure of how often the risk event is expected to occur. Frequency is a measure for risk events that occur with regularity, such as defaults on debt, equipment or system breakdowns or a human error. Probability is a statistical measure of the likelihood of a risk event: this may be a frequently recurring event or a once-only event, such as the probability of winning a contract for which a tender or bid has been submitted.

Risk measurement may therefore require analysis of both the severity of a risk and the frequency or probability of a risk event.

### 1.2 Measuring severity and frequency of risks

There are various ways of measuring or analysing risk, either quantitatively or qualitatively.

(a) **With quantitative measures**, risks are given a numerical value (such as effect on profits or revenue) and may be analysed statistically, for example by means of extrapolation from available data. The potential consequences of a risk event or set of events may also be estimated by modelling the outcomes. An example of a quantitative risk measure is the Pollutant Standards Index (PSI), measured and published by the National Environment Agency (NEA). The PSI is an index measure of air quality, taking into consideration six different pollutants, such as sulphur dioxide, carbon monoxide and ozone.

(b) **With qualitative measures**, risks may be graded on a scale, for example from 'very serious' to 'insignificant'. Some companies use a colour coding system for risks in their IT systems in a 'risk dashboard'. For example, a computer screen that displays a range of different measurements may indicate high risk items in red, low risk items in green and intermediate risk items in yellow.

The severity of a risk is given a monetary value where possible. The most appropriate technique for measuring the severity of a risk depends on the:

- Nature of the risk, and
- Information available for making an estimate.

Financial estimates are based on assumptions which should be clearly identified and recorded.

Strategic risks are the most difficult to measure because:

- They are more dynamic in nature and are likely to change without the knowledge of management or the ability of management to control them.
- They have long-term as well as short-term consequences.
- The available information is unlikely to be entirely reliable.
The likely frequency of losses from any particular risk can be predicted with some degree of confidence, by studying available historical records. If similar risk events have occurred in the past, historical records will show how often they have happened, or in what proportion of occasions did they happen. However, it may be necessary to recognise changing circumstances that have made a risk event more or less likely to happen than in the past, so historical measurements of frequency may need to be increased or reduced accordingly.

**Question 14.1**

The finance director of ABC Company is submitting a proposal to the Board of Directors for a change in the company’s credit policy for its business customers. At the moment all business customers are given 30 days’ credit, subject to being given a top credit rating of 1 or 2 within the company’s credit rating system.

The new proposal is that credit terms should be extended to 60 days and credit should also be extended to customers with a lower credit rating of 3. It has been estimated that the more generous credit terms could lead to an increase of 10% in sales, although it is difficult to assess what effect this may have on the level of irrecoverable debts, which is currently 1.5% of total credit sales. More rigorous debt collection procedures will be implemented to keep irrecoverable debts as low as possible.

*Required*

Use this example to illustrate the nature of severity and frequency of risk.

**SECTION SUMMARY**

This section has explained the position of risk analysis and evaluation within a continual risk management cycle, and has suggested that many risks can be measured in terms of their severity and frequency. This form of analysis enables an organisation to quantify its risks, and prioritise them for evaluation.

**2 Methods of analysing risk**

**SECTION INTRODUCTION**

This section describes briefly various ways of measuring or analysing risks. Some of these methods may also be used in the risk identification process.

There are different ways of analysing risk. They include:

- Risk mapping
- Benchmarking
- Probability estimates and analysis
- Sensitivity analysis
- Scenario planning or stress testing
- Simulations, including Monte Carlo simulation modelling
- Real option modelling
- Risk benefit analysis
- Human reliability analysis
- Root cause analysis
- Risk consolidation
- Risk modelling
2.1 Risk mapping

Risk mapping is a commonly used method for analysing and comparing risks. It involves the construction of a matrix, and placing each risk in the matrix according to the likelihood or probability of a risk event (frequency of risk) and the impact or consequences of a risk event (severity of risk).

In the example below, risks are simply classified into one of four categories on a qualitative basis. Another approach is to measure the maximum potential loss from a risk event (severity) and a numerical probability that a risk event will occur. It is then possible to map risks more exactly, with severity and probability two numerical scales on a graph.

<table>
<thead>
<tr>
<th>Severity or impact</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Loss of small suppliers</td>
<td>Loss of senior or specialist staff</td>
</tr>
<tr>
<td></td>
<td>Loss of sales to competitor</td>
<td>Loss of sales due to macroeconomic factors</td>
</tr>
<tr>
<td>High</td>
<td>Loss of lower-level staff</td>
<td>Loss of key customers</td>
</tr>
<tr>
<td></td>
<td>Failure of computer systems</td>
<td></td>
</tr>
</tbody>
</table>

This profile of risks in a severity/frequency matrix can subsequently be used to set priorities for risk control. Risks with the biggest probability of happening and the most severe consequences that fall outside the risk tolerance range or limit should be given priority for management action.

<table>
<thead>
<tr>
<th>Severity or impact</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Do nothing. Accept the risk, but review periodically</td>
<td>Consider the need for control action: prioritise for reducing the risk impact</td>
</tr>
<tr>
<td>High</td>
<td>Consider the need for control action: prioritise for reducing the risk frequency/probability</td>
<td>Take immediate action to avoid the risk or control the risk, by reducing risk frequency and impact</td>
</tr>
</tbody>
</table>

Instead of using a simple $2 \times 2$ matrix, the likelihood of a risk event may be rated as high, medium or low, and the severity of a risk may be rated in the same way. The risks can then be mapped on a $3 \times 3$ risk matrix. More classifications of severity and frequency could be used to produce a $4 \times 4$ or $5 \times 5$ risk matrix. By considering the likelihood and consequences of each risk, it is possible to prioritise or rank the key risks for further analysis, evaluation and treatment.
Where there are two-way risks, a separate risk map can be constructed for positive risks in terms of potential benefits and probabilities. This can help management prioritise strategic opportunities.

2.2 Benchmarking

Another approach to measuring or analysing risk is to compare actual performance with a benchmark. This method is familiar to accountants with financial ratio analysis. Actual performance or the current financial position can be compared against a benchmark. The benchmark may be an ideal ratio or a budget or target ratio.

If the actual risk level exceeds the benchmark by more than a specified amount, this would indicate that operations are possibly out of control. This depends on whether the risk level exceeds the risk tolerance limit or falls outside the acceptable risk tolerance range. If it does, this may trigger a risk response or treatment measure aimed at reducing the risk.

Benchmarks may be provided by other similar organisations, or by official statistics for the industry. For example, the Ministry of Manpower publishes an annual Workplace Safety and Health profile, and provides statistics about workplace injuries and occupational diseases, by industry and type of injury. These statistics can be used by companies for comparison in order to assess their own health and safety record.

2.3 Probability analysis

Another approach to measuring risk is based on probability analysis and calculating an expected value of loss or an expected value of the outcome. An expected value (EV) is simply a weighted average value, where possible outcomes are weighted according to the probability that they will happen.

Example

A company is considering an investment to make a new product based on a new technology. The minimum amount of investment required would be $10 million. If the investment is successful, the estimated return would have a present value of $25 million before deducting the initial investment cost. If the investment is unsuccessful, there would be operating losses of $2 million and in addition the initial investment would be lost entirely. It has been estimated that the probability of success is 60%.

The expected value of the investment in $million is \[0.6 \times (25 - 10)\] – \[0.4 \times (10 + 2)\] = + $4.2 million.

The expected value of loss could be measured as Severity \times Probability = ($12 million loss \times 0.4 ) = $4.8 million.

2.3.1 Criticisms of expected values (EVs)

Expected values (EVs) as a measure of risk can be criticised for the following reasons.

(a) An expected value is a weighted average measurement, which may not represent a potential outcome and which ignores the range of different possible outcomes. In the example above, the expected value of + $4.2 million is not a potential outcome – the two potential outcomes are + $25 million or – $12 million. The expected value amount of $4.2 million also ignores the risk in the wide range of possible outcomes.

(b) Estimates of the probability of each outcome may be unreliable, and based largely on judgement or even guesswork.

It is certainly true that expected value analysis has doubtful value when estimates of the outcomes or losses and estimates of the probabilities of each outcome are unreliable.
2.3.2 Uses of expected values in risk analysis

There are situations where expected values provide a very good measure of risk. These situations may arise in industries or companies that have large quantities of historical data for both the severity of losses and the probabilities of losses.

An example is the use of expected values for credit risk assessment. Historical records can provide large quantities of data about:

(a) The size of losses from default on loans to customers with a given credit rating, and
(b) The probability of default on loans to customers with the credit rating.

The expected value of losses from credit risk and default by customers can be measured as:

\[
\text{Size of debt} \times \text{Loss given default (as a \% of the debt)} \times \text{Probability of default} = \text{Expected Value of loss.}
\]

Note: 'Loss given default' (or 'LGD') is the expected loss, net of any collateral or other moneys which can be recovered, expressed as a percentage of the debt.

Another example of using probabilities for risk measurement is a Value at Risk ('VaR') model. A VaR model is a measure of the maximum expected loss that will be incurred within a given period of time, at a given level of probability. VaR models are used by many banks, and a model may predict for example that the bank with 95% probability the maximum losses of the bank within the next seven days will be $25 million.

2.4 Sensitivity analysis

Sensitivity analysis can be applied to plans and forecasts, such as business plans and budgets. Sensitivity analysis can identify which items in financial or operational performance are the biggest sources of risk.

The basic approach with sensitivity analysis is to calculate under alternative assumptions how sensitive the outcome is to changing conditions. The analysis identifies:

- Those variables to which the outcome is most sensitive (critical variables), and
- The extent to which the critical variables can change in value before the expected outcome reaches a critical level (for example, the point at which a project moves from a positive to negative outcome).

Management should review critical variables to assess whether or not there is a strong possibility of events occurring that would lead to a different decision. Management should also pay particular attention to controlling those variables to which the calculation is particularly sensitive, once the decision has been made.

Sensitivity analysis has a number of weaknesses:

(a) Changes in each key variable are only considered one at a time. However management should also be interested in the combination of the effects of changes in two or more key variables.

(b) Looking at factors in isolation is unrealistic since they are often interdependent. The same risks may influence a number of variables in the calculation.

(c) Sensitivity analysis does not examine the probability that any particular variation in a key variable might occur. The resulting sense of priorities may be misleading therefore – for example if a company is very sensitive to a variable, but that variable is highly unlikely to change, a low priority rating could be assigned.

Example

Sensitivity analysis may be carried out on a budget or forecast.

- The process begins with the preparation of the budget, plan or forecast. This sets out the most likely or the expected future outcome.
• Items in the plan or forecast that are subject to a large amount of uncertainty in the estimates are identified. For example, a plan may assume 10% growth in sales, but it may be recognised that sales growth may be much less, and as low as, say, 3%.

• For each item where there is estimation uncertainty, the forecast or plan is re-calculated, on the assumption that the item has a different and less favourable value. In the example above, sensitivity analysis may test what the outcome will be if sales growth is only 3%, not 10%. Alternatively we could measure the extent to which sales could fall below the budgeted level before a budgeted profit turns into a budgeted loss.

2.5 Scenario planning or stress testing

Scenario planning is a method of looking into the future when there is a great deal of uncertainty about what may happen. The process usually begins with interviewing a number of senior individuals and obtaining their thoughts about the future. There may be a long discussion with each participant about how they think that major changes in politics, economics, society and technology could affect a particular issue, such as the state of a particular industry. From this the interviewers draw up a list of priorities, including changes that will have the most impact on the particular issue and those changes whose outcome is the most uncertain. These priorities are then used to develop sketches or scenarios of the future. Each scenario is then tested to measure what future outcomes might be.

Stress testing is similar to scenario planning, in the sense that it tests a number of future outcomes given a situation in which one or more extreme conditions apply. For example, banks are required to carry out stress tests of their financial stability. A stress test measures the effect on the bank’s financial position of an extreme event, such as a 2% increase in defaults on loans.

Example:

In Singapore, MAS has conducted stress tests in order to assess the effect on the banking system as a whole of each of the following: a run on a bank with large deposits from non-banks customers, in the event that a large number of customers demand to withdraw or transfer their deposits; liquidity problems for a bank that relies heavily on the interbank market for its short-term funding and has difficulty in obtaining new funds; and failure by a bank to settle a large transaction with another bank, and its implications for causing gridlock in the entire inter-bank transactions settlement system.

The predicted outcomes from scenario planning or stress testing can be used to assess the risks.

2.6 Simulations

A simulation involves the creation of a model that is designed to simulate ‘real-world’ conditions. A simulation model may be a physical construction, such as a wind tunnel to simulate the effect of wind and wind speeds on aircraft. In business, simulation models are more commonly constructed as mathematical models.

In a mathematical simulation model, a number of different variables are identified. The nature of the variables depends on the real-world situation that is being modelled, but in a simple business model may be sales volumes of different products and items of cost or expenditure. Relationships between the variables are also built into the model.

Uncertainty is introduced into the model because for each variable there are uncertain values, and a range of different possible values is attributed to each variable, with an associated probability that this value will occur in real life.

A mathematical simulation model can be used to predict a range of possible outcomes that might occur in the ‘real world’ in the future. This is known as Monte Carlo simulation, because random numbers are used to decide what the actual value of each variable in the model should be. For example, if a simulation
model includes sales of Product X as a variable and this has a 50% probability of being 10,000 units and a 50% probability of being 11,000 units, the model may assign random numbers 00–49 to sales of 10,000 and random numbers 50–99 to sales of 11,000 units. When the model is then used to predict what sales will be, if a random number 67 is generated, the value given to sales of Product X will be 11,000 units.

Random numbers are applied to every uncertain variable in the model.

A Monte Carlo simulation is used many times over, to produce a large range of possible 'real world' outcomes. The results can then be used to identify the most likely outcome, and calculate statistical measures of variability in the outcome. For example, a simulation model may measure the expected future profit from an activity and the standard deviation of this expected profit.

Simulation modelling can therefore be used to assess risk by measuring it statistically. A decision about what to do can be taken on the basis of both expected outcome and the risk.

2.7 Real option modelling

Real option modelling can be used to make investment decisions. A real option is an option that applies to a physical asset, rather than a financial instrument, and it involves making a real choice. Examples of real options are an option to:

- Increase output capacity at a production facility by building in excess capacity at the beginning
- Switch to a different use of the asset, if the planned outcome is not successful
- Delay a decision about something, to avoid the need to commit to some spending now
- Abandon a project at a future point in time

A real option is something that provides an opportunity to make such a decision at a future time, without having to commit to a fixed decision now. This can have a value for a company faced with a decision about whether or not to invest, because it provides an option to do something different if the actual outcome differs from what is expected.

2.8 Risk benefit analysis

Risk benefit analysis is the assessment of a risk and the benefits that are obtained from exposure to the risk. Risks should be accepted only if the benefits are sufficient to justify the exposure.

2.9 Human reliability analysis

Human error can be a major cause of disruption and can result in losses due to defects in the work done, loss of product quality, downtime, environmental damage, injuries at work and so on. Where the risk of human error is high, it should be controlled.

Human reliability analysis is a method of assessing the risk of human error in a situation or a task that is repeated regularly or often. Risks from human error in a task may have been identified initially by 'near miss' reports or by previous experience of errors and their consequences.

The probability of a human error in a task is directly related to the way the task is designed and the quality of:

- The workplace design, including the working environment
- Documentation (written procedures, signs, labels)
- Operator competence (level of training, qualifications, experience and so on)

Organisations can use human reliability analysis to examine the extent to which they have those factors under control. If the level of control (and therefore human reliability) can be improved, the analysis will indicate how this can be achieved.
The basic steps in human reliability analysis are:

1. Identify and define the problem (‘critical tasks’)
2. Analyse the task into its component elements (a ‘Task Analysis’)
3. Identify errors that may occur, their consequences and measures that are in place to prevent the error from happening
4. Estimate the probability of error in each element of the task

This leads on to deciding whether further action is needed to manage the risk of error more effectively.

### 2.10 Root cause analysis

Root cause analysis is an approach to identifying and assessing the fundamental cause of a problem or a risk. It is based on the view that a problem is often identified by its symptoms or effects, rather than by its cause. To discover the cause of a problem, it is necessary to ‘dig down’ and look more deeply into the matter.

The ‘Five Whys’ technique can be used to search for the root cause of a problem. It involves asking the question ‘Why?’ several times (five times is a general guide). On obtaining an answer to the first question ‘Why?’, another question ‘Why’ should be asked about the answer. When an answer to the second question Why is obtained, another question Why should be asked about the answer to that question. Asking ‘Why?’ several times in this way can take the investigator back to the root cause. Sometimes the root cause can be identified after asking fewer than five Why questions.

#### Example

A company may want to learn more about why a new product has been unsuccessful.

1. Why was the product unsuccessful? Answer: Customers were not interested in buying it.
2. Why were customers not interested? Answer: They thought the price was too high.
3. Why did they think the price was too high? Answer: They didn't see much benefit/usefulness in the product.
4. Why did they not see much benefit in the product? Answer: It didn't satisfy a customer need.
5. Why did it not satisfy a customer need? Answer: The product was designed without adequate market research.

In this simple example, the root cause of a problem may be identified as inadequate market research before designing a new product.

### 2.11 Risk consolidation

Risk consolidation is a process of bringing together the measurement of individual risks into a consolidated total amount. Risks of a similar nature that may seem relatively insignificant when assessed individually could seem much more significant when assessed collectively. For example, similar risks within the subsidiary companies of a large group may not seem significant when measured individually, but the total amount of risk, when consolidated at group level, may be substantial.

Risk that has been analysed and quantified at the Divisional or Business Unit/subsidiary level therefore needs to be aggregated at the corporate level. This aggregation is required as part of the overall review of risk by the Group Risk Management Committee and the Board of Directors to assess the overall exposure to risk.

Aggregated risks at group level may be classified into different types of risk. The process of risk categorisation enables the organisation to develop common control procedures or control systems that can be applied consistently throughout the group.
2.12 Risk modelling

Risk models may be used to measure and manage risks. A risk model is usually a mathematical model, containing a number of variables and formulae to express the relationship between variables.

The variables are input variables and output variables. Input variables are items in the model whose value may be uncertain, and which may be altered up or down by the model user as a way of assessing risk. Output variables are the output from the model, given a set of values for the input variable.

A simple example is a cost-volume-profit model of costs, revenues and profits (which may also be called a breakeven model). Input variables to a very simple system would be the sales price per unit, sales volume in units in a period of time, variable cost per unit and fixed costs in the period. Output variables from the model would be total revenue, total costs, profit, the breakeven volume of sales and the margin of safety (between the budgeted volume and breakeven volume).

A user of the model could vary the value of input variables, to assess the effect on the outputs.

This is a very simple example of a model, and in practice models vary in size and complexity. They can be used to predict what is expected to happen and potential variations in what might happen. They can therefore be used to measure and manage risk. Where a model indicates that a risk may be too high, management can consider further measures to reduce the risk and bring it down to an acceptable level.

Where the level of credit risk seems unacceptably high, management can take measures to deal with the problem.

SECTION SUMMARY

This section has described a number of risk management techniques.

3 Risk tolerance and risk criteria

SECTION INTRODUCTION

This section explains how risk tolerance or risk criteria are established in order to establish which risks need treatment and in what priority.

3.1 Establishing risk tolerance

If a level of risk exceeds a company's criteria for acceptability, measures should be taken to treat the risk and bring it within a tolerable level.

An organisation should develop risk tolerances and risk criteria to decide the significance of each risk.

The nature of risk tolerance or risk criteria depends on the type of risk.

- For financial risks, a monetary value for the risk tolerance or criteria may be used to evaluate the significance of each risk. For example, a risk may be considered significant when a spending limit is exceeded, when cumulative losses exceed a specified limit, or when an adverse cost variance exceeds a specified percentage of the expected cost.
For operational risks that can cause disruption to operations, the length of disruption may be a suitable risk tolerance or risk criterion. A risk may be significant, for example, if it puts the system out of action for more than two hours.

Reputation risks can be evaluated in terms of the amount of coverage that an event will receive in the media or the likely impact of the event on the company's share price.

When risks fall outside the risk tolerance or criteria, they should be reported for further investigation, with a view to management action.

The following principles should be applied for all methods of analysis and evaluation.

- Risk analysis should be based on the best available information and evidence. Assumptions should be stated and calculations to obtain a quantified measure of risk should be documented.
- Risks should be evaluated against the appropriate risk tolerance or criteria.
- The results of each risk analysis and evaluation should be communicated in a way that is meaningful and understood by everyone involved. Information about a risk should be communicated in terms of the nature of the risk, its likelihood, pattern of events and seriousness.
- Risk analysts should acknowledge the limitations of their analysis.

Information, communication and monitoring activities in the context of risk management and internal control are discussed in the next chapter.

### 3.2 Risk rating

Risk rating is a method of categorising a risk according to its seriousness, by giving each risk a numerical value (a rating). One method of risk rating uses risk mapping as a starting point for analysing risks.

An organisation may have a risk rating system for comparing the significance of different risks. Banks for example use internal credit rating systems to assess the credit risk of different borrowers.

There are no rules or standards about how risks may be rated. A risk rating system may be quite simple, such as a ‘traffic light’ system of red alerts for high risks, amber alerts for less significant risks and green indicators for risks that seem to be well under control or not significant.

Even with a simple rating system such as this, managers are immediately aware which risks need the most urgent attention – the red alerts.

Another approach to risk rating is based on the risk mapping approach to risk assessment. Using risk mapping, each risk is assessed according to the probability that an adverse risk event will occur, and the impact that it will have if it does occur.

Risk assessment = Probability/likelihood × Impact

Risks can then be rated according to their assessment.
A company's health and safety officer has a system for rating risks of accidents at work.

(1) The risks are risks of minor injuries (impact rating 1), fairly serious injuries (impact rating 2), serious injuries (impact rating 3) and very serious injuries (impact rating 4).

(2) The likelihood of an injury for each identified risk is minimal (probability rating 1), low (probability rating 2), medium (probability rating 3) or high (probability rating 4).

The overall risk rating for each risk is the rating for its impact multiplied by the rating for its probability of occurring. Each risk can then be rated according to its overall assessment. The following tables illustrate how this can be done.

<table>
<thead>
<tr>
<th>Impact rating</th>
<th>Likelihood</th>
<th>Overall risk rating: risk rating bands</th>
<th>Possible control action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor = 1</td>
<td>Minimal = 1</td>
<td>Minimal risk, rating 1 – 2</td>
<td>Maintain existing controls</td>
</tr>
<tr>
<td>Fairly serious = 2</td>
<td>Low = 2</td>
<td>Low risk, rating 3 – 4</td>
<td>Review existing controls</td>
</tr>
<tr>
<td>Serious = 3</td>
<td>Medium = 3</td>
<td>Medium risk, rating 6 or 8</td>
<td>Improve existing controls</td>
</tr>
<tr>
<td>Very serious = 4</td>
<td>High = 4</td>
<td>High risk, rating 9, 12 or 16</td>
<td>Urgent measures needed to improve existing controls</td>
</tr>
</tbody>
</table>

A system of risk rating enables risks of different types to be compared, and prioritised for management action, by reference to a common measurement or rating system.

SECTION SUMMARY

This section has explained that risks are evaluated against a risk tolerance or risk criteria, to establish their significance and priority for treatment.

4 The COSO Internal Control Framework – Control Activities

SECTION INTRODUCTION

We have looked at the Control Environment and Risk Assessment components of the COSO Internal Control Framework in previous chapters. This section considers the third component, that of Control Activities.
The Principles and related Points of Focus associated with this component are set out below.

<table>
<thead>
<tr>
<th>COSO Principles</th>
<th>Points of focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. The organisation selects and develops control activities that contribute to the mitigation of risks to the achievement of objectives to acceptable levels</td>
<td>38 Integrates with risk assessment</td>
</tr>
<tr>
<td></td>
<td>39 Considers entity specific factors</td>
</tr>
<tr>
<td></td>
<td>40 Determines relevant business processes</td>
</tr>
<tr>
<td></td>
<td>41 Evaluates a mix of control activity types</td>
</tr>
<tr>
<td></td>
<td>42 Considers at what level activities are applied</td>
</tr>
<tr>
<td></td>
<td>43 Addresses segregation of duties</td>
</tr>
<tr>
<td>11. The organisation selects and develops general control activities over technology to support the achievement of objectives</td>
<td>44 Determines dependency between the use of technology in business processes and technology general controls</td>
</tr>
<tr>
<td></td>
<td>45 Establishes relevant technology infrastructure control activities</td>
</tr>
<tr>
<td></td>
<td>46 Establishes relevant security management process control activities</td>
</tr>
<tr>
<td></td>
<td>47 Establishes relevant technology acquisition, development and maintenance process control activities</td>
</tr>
<tr>
<td>12. The organisation deploys control activities through policies that establish what is expected and procedures that put policies into action</td>
<td>48 Establishes policies and procedures to support deployment of management's directives</td>
</tr>
<tr>
<td></td>
<td>49 Establishes responsibility and accountability for executing policies and procedures</td>
</tr>
<tr>
<td></td>
<td>50 Performs in a timely manner</td>
</tr>
<tr>
<td></td>
<td>51 Takes corrective action</td>
</tr>
<tr>
<td></td>
<td>52 Performs using competent personnel</td>
</tr>
<tr>
<td></td>
<td>53 Reassesses policies and procedures</td>
</tr>
</tbody>
</table>

The following sections describe the activities and policies that can help to mitigate and control risk, according to these Principles. Controls over information technology are discussed in section 9.

5 Risk responses

SECTION INTRODUCTION

This section considers different approaches to risk management and related control activities, based on an assessment of the severity and frequency or probability of the risk.

Principle 10 of the COSO Framework provides for the selection of control activities that will mitigate risks to the achievement of objectives. The following sections are concerned with responding to risks, resourcing risk controls and planning the reaction to unexpected risk events that occur. Together these make up the core process of risk management after risks have been identified and analysed.
5.1 Transfer, accept, reduce or avoid (TARA)

There are four ways of dealing with risks using the TARA framework:

(b) **Transfer the risk.** In some situations, and for some risks, the risk can be transferred to someone else. The risk remains, but someone else takes on the exposure to the risk. An example of risk transfer is insurance which transfers stated risks to an insurance company; however, buying insurance can have a high cost. It may also be possible to transfer financial risks with financial derivatives such as options and swaps.

(a) **Accept the risk.** One approach is to accept the risk because:
   - It is not significant, so there is no need to be overly concerned about it.
   - It is unavoidable and there is nothing that can be done about it (not even insuring against the risk).

There is usually some control measure that can be taken to deal with a risk, so the most likely reason for choosing to do nothing about a risk is that the risk is not important or is within the risk tolerance of the organisation.

(c) **Reduce (or control) the risk.** Many risks can be reduced or trimmed by taking control action. Control action is unlikely to eliminate the risk entirely, but it can reduce the risk to an acceptable level. Controls and control action are a very important part of any risk management system, as well as the COSO Internal Control Framework.

(d) **Avoid the risk.** Risks can be avoided altogether by remaining outside an area of business operations completely. A company that has invested in an area of business may decide to pull out of the business when it discovers that the risks of losses are too high and unacceptable.

The choice of risk management policy: transfer, accept, reduce or avoid may be considered in the context of the severity-frequency matrix, introduced earlier in the chapter.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Severity</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
<td>Accept</td>
<td>Risks are not significant. Keep under review, but the costs of dealing with the risk are unlikely to be worth the potential benefit.</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>Reduce</td>
<td>Take some action. For example carry out credit checks on customers in order to reduce credit risk.</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Avoid</td>
<td>Take immediate action. For example, change major suppliers or abandon an activity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transfer</td>
<td>Insure a risk. However action to reduce the severity of insured risks will minimise the cost of insurance premiums.</td>
</tr>
</tbody>
</table>

Decisions about risk management action also depend on the attitude of the Board of Directors and management:

- Some organisations are **more risk averse than others.** One organisation may consider that a risk is too big and should be avoided completely, but a competitor may decide that although the risk is high the potential returns are high, and the risk is acceptable provided that suitable controls are put in place.

- **Different amounts of control may be used.** A decision may be taken to apply controls to a particular risk, but there is also a decision to make about what controls should be applied and how many different controls are needed. This is not just a matter of attitude to risk. It is also a matter of cost: controls cost money and management must decide what they are prepared to spend on a control system for any aspect of the business operations.
Question 14.2

The board of YGT recently decided that risk consultants should be engaged to review the risks facing the company, as a number of risks had recently emerged whilst others had become less important.

The team of risk consultants completed the risk audit. They identified and assessed four potential risks (A, B, C and D) and the following information was discussed when the findings were presented to the YGT board:

Risk A has been assessed as unlikely and low impact whilst Risk B was assessed as highly likely to occur and with a high impact. The activities giving rise to both A and B, however, are seen as marginal in that whilst the activities do have value and are capable of making good returns, neither is strategically vital. Risk C was assessed as low probability but with a high potential impact, and arises from an activity that cannot be discontinued, although alternative arrangements for bearing the risks are possible. The activity giving rise to Risk C was recently introduced by YGT as a result of a new product launch. Risk D was assessed as highly likely but with a low potential impact, and arises as a result of a recent change in legislation. It cannot be insured against, nor outsourced. It is strategically important that the company continues to engage in the activity that gives rise to Risk D although not necessarily at the same level.

Required

Using the TARA framework, select and explain the appropriate strategy for managing each risk (A, B, C and D). Justify your selection in each case.

5.2 The ALARP principle

Some risks are unavoidable, but can be controlled. The ALARP principle is that when management decides what controls to apply a useful guide may be that the level of risk should be reduced to As Low As Reasonably Practical. The level of risk here means the residual risk allowing for the effect of the controls. The principle is based on the view that:

- Controls (or other management actions) are desirable if the expected benefits are greater than the cost of control, and the organisation has sufficient resources for control.
- Additional controls are not desirable if the cost of applying them exceeds the expected benefit.

The ALARP principle is, however, applicable only to negative risks, not for two-way speculative risks. For speculative risks, the desired control target is not ALARP, but the risk tolerance limit.

5.3 Regulation and controls

In some aspects of operations, businesses are required by the law or regulation to apply certain controls. They may be exposed to civil legal action, and in some cases criminal legal action by the authorities, for breaches of the regulations. We looked at this in the context of compliance objectives and Principle 6 of the COSO Framework in the previous chapter. It means for example that a company may have to ensure that it has sufficient controls in place to limit risks of:

- Accidents to employees at work (health and safety regulations)
- Injuries or physical harm to customers (product safety regulations)
- In the case of banks, money laundering by customers (anti-money laundering regulations).
- Misleading financial reporting (companies legislation and financial reporting standards)
5.4 Diversification and risk

It can be argued that diversification is another approach to reducing risks, because it spreads the risks.

(a) Risk diversification involves creating a portfolio of different two-way business risks. In a sufficiently well-diversified portfolio, there will be both adverse and favourable risk events. These should offset each other, and the gains from the favourable events cancel out the losses from adverse events.

(b) Even for pure or negative risks, diversification may also reduce the severity of a risk because in a well-diversified portfolio of risks, only a small proportion of adverse risk events may occur. For example, a bank may have a well-diversified portfolio of borrowers. Some borrowers will default but most will not. By spreading the risk across many borrowers, it is kept within acceptable levels.

Diversification can be used to manage risks in several ways:

- Having a mix of higher-risk and lower-risk investments. The exact mix will depend on the risk appetite of the organisation.
- Diversifying into a number of different product areas. For example a company selling books online may diversify into selling music products and other products online. A manufacturer of computer hardware may diversify into producing software for IT system users. A manufacturer of chocolate and confectionery may diversify into manufacturing soft drinks.
- Diversifying into new geographical markets. Businesses and trade have become global and many companies compete in foreign markets, as well as their own domestic market. It can be argued that in a global market, companies must diversify into new geographical areas in order to remain competitive.

In some ways, diversification may reduce risks. On the other hand, diversification into different businesses can create a high level of exposure to risk, because the businesses may lack the expertise, experience and competitive advantage to compete successfully in new product-market areas.

When entering a new geographical market, a company exposes itself to different strategic risks, such as political and legal conditions in the new geographical market, and differences in language, customs and consumer tastes.

5.5 The need to accept some level of risk

Risk-taking is an unavoidable element in business. Higher financial returns from investment are generally associated with taking greater risks.

- For strategic risks and financial risks, management should look for a balance between risk and return that is consistent with the risk appetite of the Board.
- For operational risks, management should look for a suitable balance between costs and benefits of control measures.

This need to accept some risk in order to pursue return (and value) is highlighted in COSO’s ERM framework (Integrating with Strategy and Performance). Whereas the TARA framework we looked at earlier in this chapter identifies four ways of dealing with risk, the ERM framework suggests a fifth category of risk response:

Pursue – Action is taken that accepts increased risk to achieve increased performance. For example, an organisation may adopt more aggressive growth strategies, expand operations, or develop new products and services which will increase the level of risk it faces, but also offer the potential of greater rewards compared to its existing strategy and operations.
SECTION SUMMARY

This section has discussed the four main approaches to risk management: transfer, accept, reduce and avoid. It has also explained that where risks are reduced, the problem is to decide by how much to reduce them, and what control measures (if any) to take.

Attitudes to risk and the costs and benefits of control action influence management control decisions.

6 Control over strategic and financial market risks

SECTION INTRODUCTION

This chapter considers the application of risk management methods to the management of strategic risks and financial market risks.

Managing strategic risks generally requires the adoption of strategic measures, which are decided by the Board of Directors or at senior executive level. Principle 11 of the Code of Corporate Governance states that the Board should ensure that management maintains a sound system of risk management and internal controls.

The Board of Directors should occasionally, with advice from senior management, review the overall risk profile of the company’s businesses, and reach a view about whether the level of risk is acceptable, too high or too low. This is part of the process for the Board to decide its risk appetite.

6.1 Managing two-way risks

Many strategic risks are two-way risks and the challenge for management is to develop policies for exploiting opportunities as well as keeping risk within an acceptable limit or range.

In some ways, a company has a basic choice in selecting which products or services to sell and in which markets. This choice is between:

- Accept the risks and compete in the market, and
- Avoid the market or withdraw from the market.

For example if a company is in a declining industry, the strategic choice may seem to be between staying in the industry for a bigger share of a shrinking market, and pulling out (disinvesting) from the industry. In practice, the strategic choice may not be so clear, and there are decisions to be made about:

- If the decision is to disinvest, when should this decision be taken, or
- Instead of withdrawing from the market, is there an opportunity to acquire a competitor for a low price, and increase market share?

The point to note is that decisions about managing business risk are not necessarily simple and straightforward.

6.2 Risk sharing

It may be possible to reduce business and economic risk through risk sharing, and forming joint ventures with one or more other companies.
- A joint venture with a local company may be a strategy for reducing political risk when entering a foreign market for the first time. When the government of a country discriminates against foreign companies in favour of domestic companies, there may be benefit from entering into a joint venture with a local company. This may provide protection for the joint business against government action.
- Joint ventures are a way of reducing economic or financial risk when investing in a high-risk project.

### 6.3 Positive responses to business risk

The most appropriate management policy for dealing with some business risks may be a positive strategic response. For example:

- When there appears to be a significant change in social attitudes and tastes, an appropriate policy might be to develop new products or services to satisfy the new consumer tastes.
- When there is risk of technological change, the appropriate policy might be to invest in research and development or acquire a number of small start-up companies that are developing new technology product ideas.

Responses to some business risks may be defensive, but as a general rule, strategic responses should be positive.

### 6.4 Business continuity planning

Business continuity planning, or disaster recovery planning, is planning for the event of a major disaster that threatens the continuation of business operations, in the short-term or longer-term. The exact nature of a disaster or threat to business continuity may be difficult to predict, but companies (and governments) should aim to have in place arrangements that would enable the business to remain operational if something happened that puts its normal operations out of action.

For financial institutions, MAS has issued the Business Continuity Management Guidelines (http://www.mas.gov.sg).

#### Example

SPRING Singapore has published a Business Continuity Guide: Contingency Planning for Infectious Disease Pandemics, aimed mainly at small and medium-sized enterprises in Singapore. A pandemic is an outburst of an infectious disease such as influenza or SARS. The Singapore government's strategy is to have a surveillance system for detecting a new infection as early as possible and to take measures to mitigate the consequences of the first wave of infection. There are also 'green', 'yellow' and 'red' alert levels to inform the public about the status of a pandemic.

The consequences for business of a pandemic might include the absence of large numbers of employees from work, a fall in demand from customers (especially in the services sectors), disruption to the supply chain and an increase in the use of electronic communications.

The Business Continuity Guide suggests how businesses should plan for the continuity of their business in the event of disruption, for example by having a leadership continuity plan in the event of losing business leaders to the disease and by having contingency plans for working from home (telecommuting). The Guide also recommends measures such as educating employees about infection control and hygiene, and developing continuity plans with suppliers.

When a country relies on nuclear power for its energy and has a number of nuclear energy processing plants, there is some risk of disruption due to a serious accident at a nuclear site. For example an earthquake in Japan in 2011 resulted in the collapse of the Fukushima Daiichi nuclear power station, and with the benefit of hindsight it demonstrates the need for business continuity planning by:

- The energy industry as a whole in Japan
- Local businesses near the Fukushima plant, and how they could remain operational after being evacuated from the area
Disasters are expected rarely, if at all, but the consequences could be severe, particularly if the organisation does not have a plan in place to deal with a major disruption to its business.

### 6.5 Management of financial market risks

Companies may deal with exposures to risks in the financial markets by:

- Accepting the risk, and hoping that market prices will move favourably, or that any adverse price movement will not be significant, or
- Taking measures to reducing the exposure to risk by hedging as a matter of company policy, with forward contracts or possibly financial derivatives.

For most non-financial companies, the main market risks are interest rate risks (which affect the cost of borrowing) and currency risks (since many companies have foreign purchases or sales denominated in another currency). This text does not describe the various types of forward contracts and other financial derivative instruments (such as currency and interest rate swaps and currency and interest rate options) that may be used regularly by a company, as a matter of financial policy, to manage exposures to financial risks.

However, large companies often have a formal policy on exposures to financial risk and the methods that the treasury department may use, including financial derivatives, to manage those risks.

### SECTION SUMMARY

The management of business risk requires strategic responses to risk; however the overall strategic risk in a company's business should be consistent with the risk appetite of the Board of Directors.

A large, non-bank company may have a formal policy on the use of forward contracts and other financial derivatives for managing exposures to market risks, particularly currency and interest rate risks.

### 7 Control over operational risks

### SECTION INTRODUCTION

This section begins by considering different ways of classifying operational errors, and then goes on to describe control activities that are used to mitigate operational risks.

### 7.1 Operational risks

Operational risks are risks arising from failures in operational systems due to human error, equipment failure, procedural error and external events.

- **People make mistakes.** Mistakes happen for a variety of reasons. Individuals may not be properly trained and may not know how to do the job properly; they may be over-worked and so forget to do something or fail to complete a task; their attention may be diverted at a crucial moment so that they do not see something important; or they may be lazy and so fail to do a job thoroughly, and so on. Sometimes individuals make errors deliberately, with the intention of causing problems at work.
14: Risk analysis and control activities | PART D INTERNAL CONTROL AND RISK MANAGEMENT

- **Fraud.** Fraud is criminal deception, carried out with the purpose of gaining a personal advantage. It may involve the deliberate misrepresentation of financial performance by management, possibly for the purpose of making results seem better than they really are so that they will earn a large annual bonus. Alternatively, fraud may involve deliberate hiding or disguising the nature of transactions with a view to stealing money or other assets from the organisation. Individuals who commit fraud may be either employees of the organisation (including management) or individuals outside the organisation.

- **Equipment and machine failure.** Errors occur because equipment or machines break down or function incorrectly.

- **Loss of information and privacy.** There may be a risk that data on file may be lost or corrupted, or that an unauthorised person may gain access to confidential information.

- **System or procedural errors.** Sometimes an error may occur because existing procedures are not designed to deal with a particular situation that arises.

- **External events.** External events may cause disruption to an organisation's operations. For example, a breakdown on the public transport system may disrupt operations because many employees are late getting into work in the morning.

- **Compliance risks** are risks of failure to comply with regulations or laws, which could result in regulatory action or legal action against the organisation. Examples are failure to comply with health and safety regulations or employing children for full-time work beneath the minimum legal age.

- **Errors in the book-keeping system.** Risks are not easily separated into different categories. An example is human error or IT breakdown error in the book-keeping system. Examples are failures to record transactions in the accounting system, or failure to collect money owed by a customer, or failure to protect cash. These errors can have a financial consequence: incorrect accounting records, leading to incorrect financial statements. However they are caused by human error or other operational failure, and the consequence is often the cost of correcting the error. So fraud and human error resulting in mistakes in the book-keeping system may be categorised as either financial risks or operational risks.

Operational risks are subject to management control and can be mitigated through internal controls.

### 7.2 Internal control risks

Internal controls are implemented to reduce operational risks. As outlined in the COSO Framework, these may be controls over operations, controls over financial procedures, controls over compliance with regulations or controls over reporting.

Internal control risks are the risks of failure or weakness in internal controls. We can define internal control risks by:

- First defining the objectives of internal control, and then
- Defining internal control risks as the risks that impede the achievement of these internal control objectives.

Internal control objectives may be:

- To ensure the effectiveness and efficiency of operations
- To ensure reliable and accurate reporting
- To ensure compliance with laws, regulations and policies
- To safeguard assets and information

Internal control risks are the risks that impede the achievement of these objectives. They include risks that internal controls are insufficient or inappropriate for their purpose, and risks of failure in the operation or application of internal controls.
Internal control risks may be described as operational control risks, financial control risks, or compliance control risks, according to the nature of the internal control and its purpose.

**Internal control risks are usually negative or pure risks.** There is a risk that something may go wrong, but there is rarely a chance that things will turn out better than expected. Internal controls, which are designed to mitigate internal control risks, are all designed to deal with errors, mistakes, omissions and failings.

### 7.3 Preventive, detective, corrective and directive controls

Internal controls can be classified according to the purpose they are intended to achieve.

- **Preventive controls** are controls that are designed to prevent errors from happening. Examples of preventive controls are as follows.
  - Checking invoices from suppliers against goods received notes before paying the invoices, to ensure that payments are accurately made for goods actually received
  - Regular checking of delivery notes against invoices, to ensure that all deliveries have been invoiced
  - Signing of goods received notes, credit notes, overtime records and so forth, to confirm that goods have actually been received, credit notes properly issued, overtime actually authorised and worked
  - Denying access to sensitive areas of the business to unauthorised people
  - Keeping cash in a safe or strong box, to protect it from theft

- **Detective controls** are controls that are designed to detect errors once they have happened. Examples of detective controls in an accounting system are bank reconciliations and regular checks of physical inventory against book records of inventory. Exception reports may be used to detect when actual performance differs from expected performance, indicating that a failure of some nature may have occurred. Duties may be segregated so that if one person makes an error, someone else performing a subsequent task will be able to detect it.

  Fire alarms and security alarms are possibly more obvious examples of detective alarms.

- **Corrective controls** are controls that are designed to minimise or negate the effect of errors or control failures. An example of a corrective control would be back-up of computer input at the end of each day, or the storing of additional copies of software at a remote location.

- **Directive controls** are controls that direct activities or staff towards a desired outcome. Examples include operational manuals or training employees in procedures for dealing with customers. Directive controls may sometimes be useful to ensure that staff follow regulatory procedures when completing a task.

Preventive controls are generally better than detective or corrective controls, as they aim to reduce the incidence of negative events.

### 7.4 Input, processing and output controls

Some internal controls may be classified as input, processing and output controls.

- **Input controls** focus on the resources that are used in the organisation's processes. They include controls over the materials supplied, the quality of the staff used and the information used.

- **Processing controls** focus on what the organisation does as part of its operations. They can include controls over manufacturing, service delivery, information processing, distribution and storage. They include controls at different stages of operational processes, as well as controls that should be operated before a process is started or finished. Procedures and rules are examples of processing controls.
Output controls focus on the products or services that are produced as part of operations. A key element of output control is comparing what is actually produced with what was expected to be produced and taking appropriate action if there are differences (as a result of feedback). In accounting systems, budgetary control reporting is a form of output control. Another form of output control in manufacturing systems is quality control testing, such as batch testing.

7.5 SPAMSOAP categories of controls

You may be familiar with the mnemonic SPAMSOAP, which is a method of categorising financial preventive and detective controls in accountancy and book-keeping work. The eight categories of controls are as follows:

<table>
<thead>
<tr>
<th>Internal financial control</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Segregation of duties</td>
<td>Ideally the authorisation of a transaction, the carrying out of the transaction and the recording of the transaction should each be done by a different person. This means that one person checks the earlier work of someone else so that errors are detected and the risk of fraud is reduced.</td>
</tr>
<tr>
<td>P Physical</td>
<td>Physical controls are measures to secure the custody of assets, such as security systems for access and physical protection for assets.</td>
</tr>
<tr>
<td>A Authorisation and approval</td>
<td>These are controls that prevent an action from occurring unless appropriate authorisation has been obtained. Authorisation for spending is one example; authorisation for access to accounting IT systems is another.</td>
</tr>
<tr>
<td>M Management</td>
<td>Management applies controls through planning, directing and monitoring performance.</td>
</tr>
<tr>
<td>S Supervision</td>
<td>Supervisors apply more direct controls over operations by having direct oversight of individuals doing their work.</td>
</tr>
<tr>
<td>O Organisation</td>
<td>An organisation structure provides controls through reporting lines, levels of authority and areas of responsibility.</td>
</tr>
<tr>
<td>A Arithmetic and accounting</td>
<td>Arithmetic and accounting controls are computational checks on accounting information, such as control totals, trial balances and reconciliations.</td>
</tr>
<tr>
<td>P Personnel</td>
<td>These are controls over the selection, training and qualifications of personnel. Staff must be competent and capable of doing their work well. Controls over recruitment and training help to reduce personnel risks.</td>
</tr>
</tbody>
</table>

7.6 Applying internal controls

Principle 12 of the COSO Framework provides for clear policies with regard to internal controls, and which controls should be applied to operations. There might be resourcing or other limitations which will dictate policy to some extent. Controls should only be considered worthwhile if the expected benefits from risk mitigation outweigh the costs of applying the control. This may seem logical in concept, but in practice it is not such an easy rule to apply.

- It may be difficult to estimate the likely loss that would occur if no control measures at all were in existence.
- It may be difficult to estimate the likely benefits from control action, especially if a control is only expected to reduce a risk rather than eliminate it entirely (which is usually the case in practice).
• Some benefits from control action may be non-financial, or even qualitative, and so are difficult to measure in money terms.

• There may be different levels of control, and the effect of control at different levels may be difficult to estimate. For example, there may be an output inspection procedure to assess whether production output is within acceptable quality levels. What would be the difference between inspecting 5% of total output and inspecting only 2% of total output? A lower level of inspection would presumably be cheaper, but would it result in significant loss of control quality?

7.7 Resourcing controls
The risk management and internal control system within an organisation should be adequately resourced, so that it can function effectively.

• Individual managers should be given ownership of specific risks, and they should be given sufficient time within their job to give a suitable amount of attention to risks and risk controls. Ownership of risk has little purpose if managers do not have the time to manage the risks.

• Specialist control functions within the organisation should be given adequate staff and resources, including the:
  – Health and safety function
  – Internal audit function
  – Quality control function

Some organisations such as banks may employ specialist risk officers.

7.8 Limitations to internal controls
Any internal control system can provide only reasonable assurance about control, no matter how good the system appears to be. There are several reasons for this.

• Some additional controls would reduce risks further, but it would be too expensive to implement them. For example, the risk of human book-keeping error may be reduced if the finance director were to do the book-keeping, instead of an accounting technician. However, the cost of the better control would not be justified.

• The risk of human error and fraud can never be eliminated and is always present.

• The risk of collusion between two or more employees to commit fraud may reduce the effectiveness of segregation of duties or supervisory controls.

• Controls may be by-passed or over-ridden by managers. Senior managers may take an arrogant view that controls are for their employees but do not apply to them personally.

• Controls that are designed to deal with routine control problems may be unable to deal properly with unusual circumstances.

• Controls may appear well-designed ‘on paper’, but they may not be implemented fully or effectively.

Question 14.3
Effectiveness of internal controls

As part of her continuing professional development, Sonja Tan, the finance director at LoHo, has been to a seminar on improving internal controls. She believes that at this point in its growth, LoHo could benefit from tighter internal controls. Speaking about this to the board on her return from the seminar, she reminded her colleagues that sound internal controls could only provide ‘reasonable assurance’ and that any system had inherent limitations and could never be totally effective. This came as a surprise to some board members who assumed that because internal controls were often very expensive, they should be guaranteed to be fully effective.
Explain the reasons why many internal controls can never be guaranteed to be fully effective and discuss why the expense associated with some systems is no guarantee of their effectiveness.

SECTION SUMMARY
This section has described operational controls or internal risk controls, and different types of internal control that may be used to mitigate these risks. It has also made the important point that internal control systems are not perfect and that they have limitations.

8 Control over human error and fraud

SECTION INTRODUCTION
This section looks in more detail at some aspects of control activities that can be employed against the risk of human error and fraud.

8.1 People risk and controls

People risk is a term for operational risks that occur due to human error or fraud.

In many systems, measures to reduce operational risks often involve eliminating the involvement of humans as far as possible and automating as much of the process as possible. Alternatively, when human intervention is unavoidable, humans may be given strong guidance about what to do by computer software and on-screen instructions.

Human error risk cannot be eliminated entirely from an organisation. For more complex work, a high level of human involvement is required. A challenge for management control is to keep the risks from human errors within acceptable limits.

In order to design and implement controls, it is first necessary to identify the causes of human error risk and assess the significance of each of these causes. The main causes of human error risk may differ between organisations. Here are some examples.

- There may be a high labour turnover rate, and employees may not remain in their jobs for long before leaving the organisation. This may be due to paying very low wages or salaries.
- Employees who are recruited may not have sufficient skills or experience to do the job well, and may not be well-suited to the work. This could be attributable to a poor recruitment system.
- Employees may not be given enough training to do a particular task properly. They may be given some initial training, but no reinforcement training at a later time. Training is quickly forgotten unless the procedures are used regularly at work, and training has no value when it is subsequently forgotten.
  
  An example of the need for regular reinforcement training is anti-money laundering procedures in a bank. The regulatory authorities require banks to provide staff with regular training, so that they remain continually aware of anti-money laundering procedures.
- Employees may be unaware of how well or badly they are performing. This would be due to a failure in the performance reporting system, or a failure in supervision of staff or in management.
• Employees may be unaware of all the tasks they are expected to perform, so they do not complete their work properly. This could be due to poor training, but is also likely to be due to poor supervision.

• Employees may not be concerned about how well or badly they have performed. Lack of concern and lack of risk awareness may be partly attributable to poor management and the absence of a risk awareness culture. It may also be attributable to the absence of rewards or incentives in the pay system, or to poorly-structured reward or incentive schemes.

People risks can be reduced by suitable controls, which include:

• Fair remuneration and incentives for good performance
• Performance reporting systems
• Effective recruitment procedures
• Regular training of staff
• Effective supervision and management

8.2 Fraud and fraud controls

Occasionally one or more employees may decide to act dishonestly and commit fraud. Fraud is a criminal offence, but employees (or individuals from outside the organisation) may see an opportunity for personal gain and the desire for gain is stronger than the fear that they may be detected and punished.

An organisation may be exposed to small amounts of fraud, but there may also be occasions when losses due to fraud could be very high. The following are all examples of fraud.

<table>
<thead>
<tr>
<th>Type of fraud</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghost employees</td>
<td>Maintaining fictitious employees on the payroll and making regular salary payments to them. The salaries paid to the non-existent employees are shared between the fraudsters, who may include a supervisor or manager of a work team.</td>
</tr>
<tr>
<td>Collusion with a supplier or customer.</td>
<td>There may be collusion with a supplier to claim payments for fictitious deliveries of goods. Or there may be collusion with a customer in which deliveries to the customer are not recorded and the customer makes some payment instead to the fraudsters.</td>
</tr>
<tr>
<td>Over-stating expenses</td>
<td>Making claims for non-existent expenses or over-claiming expenses, such as claiming for first-class air travel when the individual travelled economy class.</td>
</tr>
<tr>
<td>False financial reporting</td>
<td>Senior management may deliberately produce misleading financial statements in order to earn a large annual bonus and to deceive shareholders.</td>
</tr>
<tr>
<td>Misstating time spent on client work</td>
<td>Over-stating time spent on working for a client is a fraud against the client, who will be charged for the time.</td>
</tr>
<tr>
<td>Unauthorised use of company resources</td>
<td>This is a form of theft of company resources.</td>
</tr>
<tr>
<td>Taking extended lunch breaks</td>
<td>This is a form of fraud because the employee will expect to be paid for the time that should have been spent at work, but was not.</td>
</tr>
</tbody>
</table>

8.2.1 Opportunities for fraud

The reasons why an individual may commit fraud may be explained by the fraud triangle. The fraud triangle model consists of three components which together lead to fraudulent behaviour at work.
The fraud triangle

- **Pressure (motivation).** The individual perceives that they have a financial need or financial problem that cannot be resolved by legitimate means. They therefore consider an illegal act to resolve the problem. The problem may be a personal need for money (due to debt), or because their job is at risk. For example, the individual may be under pressure to meet a certain sales target and knows that this will not be possible (by legitimate means).

- **Opportunity.** The individual must see a way of using their position at work to solve the problem. They know that the action they have in mind is wrong or illegal, but they see that there is a low chance of getting caught, and they can commit the action in secret.

- **Rationalisation.** Many individuals who commit fraud at work do so for the first time. They do not see themselves as criminals, but as honest people caught in very difficult circumstances. The individual therefore rationalises the fraud in a way that seems justifiable, such as: 'I am underpaid and my employer is cheating me' or 'I am only borrowing the money' or 'I need the money to support my family.'

### 8.2.2 Reasons for fraud

Managers should understand how and why fraud might arise.

(a) The risk of fraud may be increased by factors that are specific to the **industry.** Lower profit margins due to increased competition may tempt managers to falsify financial results.

(b) Factors specific to the **organisation** may also increase the risk of fraud, such as extensive authority given to dominant managers, who are placed in a position where they are able to commit fraud undetected.

(c) **Changes in circumstances** may also increase the risk of fraud. Often a control system may become inadequate as a result of changes in the business, particularly changes in technology or internal organisation.

(d) Certain areas of operations, for example cash sales, are **normally high risk** because of opportunities that may exist to steal cash.

### 8.2.3 Reasons for poor controls

Management also needs to understand the factors that may prevent controls from operating properly.

(a) Controls will not function well if there is a **lack of emphasis on compliance** or a **lack of understanding** of why the controls are required, how they should operate and who should be operating them.

(b) **Staff problems** such as understaffing, poor-quality staff or poorly-motivated staff can prevent the effective operation of controls.

(c) **Changes in senior personnel** can lead to a lack of effective supervision or management.

(d) **Emphasis on the autonomy of operational managers** may lead to controls being by-passed.
8.2.4 Fraud prevention policies and controls

Some general prevention controls may help to reduce the risk of fraud. They recall the Principles 1–5 of the Control Environment component of the COSO Framework.

(a) **A strong ethics policy ('tone at the top').** Some companies have formal codes of ethics which employees are required to sign covering areas such as gifts from customers. Management can also ensure that they set 'a good example'.

(b) **Personnel controls** may reduce the risk of fraud by recruiting suitable people to work for the organisation.

(c) **Training and raising risk awareness** are important. There are many examples of frauds taking place where people who were unwittingly close were shocked that they had no idea what was happening. Fraud awareness education should therefore be an integral part of training, particularly for managers and staff in high risk areas such as procurement.

Specific prevention controls should be implemented in areas of the business where a high risk of fraud has been identified.

(a) **Segregation of duties** may be a key control in fraud prevention although it may not prevent fraud when there is collusion.

(b) **Appropriate documentation** should be required for all transactions.

(c) **Limitation controls** should be applied, such as only allowing staff to choose suppliers from an approved list.

(d) **Authorisation and access controls** are controls that require authorisation for certain actions or that limit access to high-security areas of operation, such as limiting access to the computer network by means of passwords.

(e) Policies should be clearly communicated and certain actions should be prohibited, such as leaving a computer terminal without logging off.

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A Singapore Fraud Survey 2014, produced by KPMG in association with Singapore Management University, of business respondents to a survey of fraud in Singapore reported that:

- 29% of respondents indicated that there had been at least one case of fraud in their organisation within the past two years. Most cases of fraud were internal fraud, by employees.
- Well-trained and security-conscious employees are an important first line of defence against fraud.
- More than half of the cases of fraud were uncovered by employees or customers of the organisation. Some were detected from data analytics. A smaller number were uncovered by internal or external audit work.
- Collusion is seen as a very serious problem, since internal controls rely on supervisor reviews and approvals, or third party documentation. Collusion can get round these controls.
- The threat from e-crime – employees using access to IT systems to steal the company's assets (for example through e-banking) was seen as a matter for growing concern.

The survey also provides a list of factors that contribute to make fraud possible:

- Poor IT controls
- Weaknesses in other internal controls; over-riding of controls
- Poor arrangements for the physical protection of assets
- Collusion
- Weak oversight by management or supervisors
- Employees not being aware of 'red flags' – signs that fraud may be happening. This may be due to inadequate training of staff in fraud prevention.
9 Information technology risks and controls

SECTION INTRODUCTION
The Code of Corporate Governance 2012 and the COSO Framework both identify information technology risks and controls as a separate classification. This section gives a summary of IT risks and controls.

The Code of Corporate Governance 2012 specifies information technology (IT) controls as a separate category of internal controls that require close attention from management. IT systems are an essential part of the operations of companies, and they must be protected against risks to their integrity and reliability. The updated COSO Framework also specifies the importance of control activities over technology in its Principle 11.

9.1 IT risks
There are many varied risks to IT systems, which should be subject to internal controls. These may be summarised as:

- Management and organisation risks
- Risks of system shutdown or damage
- Risks to the integrity of data and IT systems
- Risks of IT fraud
- Risks from the internet
- System development risks
- Audit risks

For financial institutions, the MAS has issued the Technology Risk Management Guidelines (http://www.mas.gov.sg) which is expected to be observed by the board and management. This set of guidelines includes the roles and responsibilities of board and management over technology risks, and the technology risk management framework covering risk identification, assessment, treatment, monitoring, etc.

9.1.1 Management and organisation risks
Some IT risks may arise from inadequate or insufficient management and/or organisation of controls.

- There may be a lack of clearly defined and effectively implemented management controls. For example, individual management or departmental responsibilities for specific risks may not be properly identified. There may also be insufficient monitoring and oversight of control systems.
- IT security policies and standards may be inadequately drafted (or may have been drafted but not implemented effectively).
- IT laws vary between countries. In a multinational organisation, there may be inadequate knowledge of the IT laws in each country in which the organisation operates.
Management may be slow to respond to new IT-related laws that are introduced.
There may be inadequate procedures and controls to protect personal data.
Management may also be slow to respond to the risks created by new technology, such as open source, cloud computing and mobile technology.

9.1.2 Risks of system shutdown or damage
Risks of system downtime, system shutdown or damage to IT systems may come from:
- Natural threats, such as fire, flooding and damage to buildings and their contents by high winds or earthquakes.
- Loss of power supply.
- Human threats, which may be deliberate damage (from terrorist attack or by a disaffected employee) or physical damage caused by accidental human error.
- Risks may be enhanced by an absence of incident management and business continuity planning arrangements, so that the organisation is not able to react effectively if an IT incident/major system breakdown occurs.

Example

In October 2013, fire broke out at the Bukit Panjang Exchange facility of Singapore Telecommunications (SingTel), damaging optical fibre cables and disrupting internet, mobile and fixed line services across much of the island for about one week. The Infocomm Development Authority (IDA) reacted to public anger by launching an investigation to find out what had happened and 'ensuring it would not happen again'. The incident raised questions about the ability of telecommunications companies to manage critical disruptions to services effectively.

The investigation found that three organisations were at fault: SingTel, CityNet and OpenNet, and all three were fined by the IDA. The IDA found that they had not fulfilled their obligations, such as to provide sufficiently resilient telecommunications services and to restore services to end users as quickly as possible after the disruption occurred.

Emerging issues
Singapore's overall approach to mitigating cyber threats, and to providing a secure information and communications technology ('infocomm') environment, is described in the National Cyber Security Masterplan.

The current (2018) Masterplan focuses on three key areas:
- Enhancing the security and resilience of critical infocomm infrastructure
- Increasing efforts to promote the adoption of appropriate infocomm security measures among businesses and individuals
- Increasing Singapore's pool of infocomm security experts in order to boost cybersecurity in the nation.

In February 2018, Parliament passed the Cybersecurity Act, demonstrating that cybersecurity continues to be a priority for the Singapore Government.

The Act stimulates that IT systems which are necessary for the continuous delivery of essential services (eg national security, healthcare, banking and finance, utilities, transport) are designated as critical information infrastructure (CII).

Under the new legislation, the owners of systems designated as CII have to report all cybersecurity incidents related to these systems, and to comply with other statutory obligations – including carrying out regular cybersecurity audits and risk assessments.
The Act also provides for the appointment of a Commissioner of Cybersecurity who will be responsible for selecting the specific organisations to be designated as CII.

Under the proposed legislation, CII operators in breach of the new rules could face a fine of up to S$100,000; two years in prison; or both.

However, the Minister of Communications and Information said that no action will be taken against CII owners for cybersecurity breaches if they comply with their obligations.

9.1.3 Risks to the integrity of data and IT systems

Risks to the integrity of data and IT systems arise from any of the following sources:

- Human error, such as entering incorrect transaction data into the system, processing the wrong files, and failure to correct errors.
- Technical errors from malfunctioning hardware, software or communications.
- Risks of loss of data, corruption to data or the illicit interception of data.
- Commercial espionage
- The inability of humans to anticipate sufficiently well the likely ‘correct answer’, due to overreliance on IT to produce the right answer automatically every time.
- Data redundancy (out-of-date data, duplication of data, etc.)
- Outsourcing risks: where an organisation outsources IT work to a specialist supplier, control over data is passed to the supplier. For example, responsibility for payroll processing or system software development may be outsourced. Many organisations now outsource their IT operations and filing systems to providers of cloud computing services. By outsourcing IT work, an organisation becomes exposed to the IT risks of the supplier.

9.1.4 Risks of IT fraud and theft

Computer fraud often involves the theft of funds through dishonest use of a computer system.

- Input data may be false. A fraudster may, for example, input non-existent employees on to the salary file, or a non-existent supplier on the purchases file.
- A fraudster may commit programming fraud, and alter software.
- Output fraud may involve the theft of output documents, such as cheques. Other output documents may be stolen to hide a fraud.
- There may be theft of customer lists and other personal data (credit card details, identify theft, passwords and logins details).

9.1.5 Risks from the internet

Computer systems that use the Internet are exposed to several types of risk.

- A virus may be downloaded from the Internet, which then spreads throughout the company's intranet system.
- The Internet gives hackers an opportunity to gain entry to a company's IT system and enables external Internet users to intercept the company's data.
- Employees may illegally download information or files from the Internet.
- Communications links or internet servers may break down and disrupt the operation of the IT systems.
• The risk of impersonation or identity theft: for example, the risk of failure to prevent or detect fraudulent online purchases based on stolen credit card numbers.

• Risk of unintentional release of sensitive information into the public domain.

• Social media risks: failing to use social media effectively for marketing or publicity; giving responsibility for social media management to individuals without the necessary knowledge and skills; risks from complaints and product disparagement on social media.

Risks from hacking and cyber-crime are possibly greater than company management is aware.

• It is now recognised that industrial espionage is widespread, and confidential data (such as patent designs and product specifications) may be accessed by hackers employed by a competitor. These risks are sometimes known as cybersecurity threats. Senior management and the Board of Directors should keep cyber-security under continual review. Guideline 11.2 in the Code of Corporate Governance states that the Board should review at least annually the adequacy and effectiveness of risk management and internal control systems, including Information Technology controls.

• Malicious hackers may try to spread a virus into the IT systems of an organisation. A virus may be introduced into a company's IT system in an attachment to an e-mail. Some viruses spread very quickly; some are programmed to send themselves to all the e-mail addresses in the user's electronic address book. Hackers may also, deliberately or unintentionally, destroy or damage files and data.

• An IT system may also be exposed to Denial of Service attacks. External Internet users may attack a company's web site by creating huge volumes of demand for access. This prevents legitimate users from gaining access to the web site and accessing the company's on-line services.

• It is often difficult to identify a hacker. Even if a hacker can be identified there are likely difficulties in taking legal action or effective counter-measures, because the hacker may be resident in another country where IT laws are different.

9.1.6 COSO and cyber risk

A joint research project by COSO and Deloitte (COSO in the Cyber Age, January 2015) highlighted that as IT systems and technology become increasingly important to organisations, and as they increasingly share information with external parties (for example, service providers) the potential impact of cyber risks becomes increasingly significant. The report highlights the importance of mitigating these risks, and suggests that organisations could use the five components of the COSO Internal Control Framework (‘cube’) as a basis for reviewing the controls they have in place to manage cyber risks.

Control environment – Does the board of directors understand the organisation’s cyber risk profile? Are the board informed of how the organisation is managing the evolving cyber risks it faces?

Risk assessment – Has the organisation, and its critical stakeholders (eg service providers, customers) evaluated its operations, reporting and compliance objectives, and gathered relevant information, to understand how cyber risk could affect them?

Control activities – Has the organisation developed control activities, including general control activities over technology, to enable it to manage cyber risk within an acceptable level of tolerance? Does the organisation have formal policies and procedures detailing the control activities?

Information and communication – Has the organisation identified information requirements (eg reports, data, diagrams) to manage internal control over cyber risk? How will the organisation respond to, manage, and communicate a cyber risk event should it occur?

Monitoring activities – How will the organisation select, develop, and perform evaluations to assess the design and operating effectiveness of the controls it has in place to address cyber risks? When deficiencies are identified, how are these communicated, and prioritised for corrective action? Is assistance from qualified cyber risk specialists required to effectively prioritise and deploy controls against cyber risk?
9.1.7 System development risks

System development risks are risks of errors, mistakes or damage to systems as a result of system development work. IT systems are continually developed and upgraded, and without suitable controls, any of the following problems could occur:

- Unauthorised changes to systems, with new versions of programs.
- Introduction of new programs or amended programs without adequate planning and testing.
- Development of systems that do not properly meet the user's requirements.
- Excessive costs of system development or excessive delays in implementing a new or upgraded system.
- Failure to provide an adequate audit trail in the system.
- An inter-operability problem, where fragmented IT systems are incompatible and cannot operate together.
- Concentration risk that can potentially cripple IT operations in the event of system shutdown or damage, particularly when there is no in-built back-up control and adequate contingency plans.

9.1.8 Audit risks

Auditors may face several risks when they are required to audit the information produced by a computer system:

- Concentration of controls and lack of segregation of duties
- Lack of audit trail from originating documents through to output
- Over-writing of data that the auditor requires

With some accounting systems, especially those which draw on databases for input to processing, there is a risk of GIGO – garbage in, garbage out. If the data input for processing is unreliable, the output will be unreliable too.

Audit around the computer approach may be used in situations when auditor is of the opinion that computer system is reliable. The auditor does not assess whether required IT controls are in place and if they are operating effectively, which is a weakness of this audit approach. Audit around the computer is known as a black box audit approach.

9.2 IT controls

There is a wide range of IT risks and there are many different controls for mitigating the risks. The international security standard ISO 27001 classifies control objectives and controls for IT system security as follows.

(a) Security policy. A document setting out the organisation’s approach to information security should be made available to all staff.

(b) Organisation of information security. It must be clear which individuals have responsibility for various aspects of IT security.
(c) **Asset management.** Information is an asset, and security will be improved if information assets have an ‘owner’ responsible for protecting it and if assets are classified according to how much protection they need.

(d) **Human resource security.** Controls include controls over recruitment of staff, staff training (to reduce the risk of errors and to improve risk awareness of IT staff) and reporting of security-related incidents. There should also be sufficient segregation of duties within the IT department.

(e) **Physical and environmental security controls,** such as restricted entry systems to computer terminals and other hardware. Controls also include measures that provide protection against damage from fire or flooding.

(f) **Communication and operations management controls.** These include controls to deal with risks from the Internet, to safeguard information and protect the IT system from virus attacks.

(g) **Systems access controls.** These include controls to restrict access to IT systems, for the protection of information and for the detection of unauthorised activities. Access controls include both physical access controls and software controls, such as User Identifications and passwords. Access may also be restricted by means of encryption of data.

(h) **IT system acquisition, development and maintenance controls.**

(i) **Information security incident management.** There should be procedures for reporting information security events and weaknesses, and for the management of information security incidents.

(j) **Business continuity management.** There should be measures in place to ensure the security of information and that the business can continue to function in the event of serious damage or disruption to the IT system.

(k) **Compliance controls.** There must be controls to ensure compliance with legal and regulatory requirements, or with company policies and procedures.

There must also be software and procedural controls to protect the integrity and security of data. These include:

- Controls over the accuracy of data input, including data validation checks on input
- Backing up files

### 9.2.1 NIST Cybersecurity Framework

Another useful framework for assessing cybersecurity in an organisation is the US National Institute of Standards and Technology (NIST) Cybersecurity Framework.

The Framework identifies five key functions in relation to managing cybersecurity risk:

(a) **Identify** – Identify the key systems, devices and facilities that enable the organisation to achieve its business purposes, and understand the potential cybersecurity risk to organisational operations, and to strategy, image and reputation.

(b) **Protect** – Develop and implement appropriate safeguards to ensure delivery of critical services, and to limit or contain the impact of a potential cybersecurity event.

(c) **Detect** – Develop and implement appropriate activities to identify the occurrence of a cybersecurity event.

(d) **Respond** – Develop and implement appropriate activities to be able to take action when a cybersecurity incident is detected.

(e) **Recover** – Develop and implement appropriate activities to restore any capabilities or services that were impaired due to a cybersecurity incident.

Organisations then need to assess their current profile for each of the functions, to establish if there are any ‘gaps’ between their cybersecurity outcomes and the target outcomes they require in order to achieve their desired cybersecurity risk management goals.

Where gaps are identified, the organisation then needs to develop an action plan to fill those gaps.
9.3 Personal data protection

Many countries have legislation whose purpose is to protect personal data about individuals, and prevent its unauthorised storage and use. Companies need to ensure that they comply with the relevant legislation in all the countries where they operate.

The Personal Data Protection Act 2012 came into force in July 2014. It governs the collection, use, disclosure and care of personal data. It recognises the needs of organisations to collect and use personal data for reasonable purposes, but it also protects individuals from personal data being used for other purposes without their consent.

For example, the Act provides for the establishment of a Do Not Call (DNC) Registry, which individuals can use to register their Singapore telephone numbers and opt out of receiving marketing phone calls or mobile text messages from organisations.

The Act contains the following provisions:

- An organisation must not collect, use or disclose personal data about an individual unless the individual gives his or her consent under the Act, or unless the collection, use or disclosure without the consent of the individual is allowed under the Act or any other law.
- The Act provides a list of circumstances in which the collection, use or disclosure of personal data without the individuals' permission is permitted.
- An organisation must make reasonable efforts to ensure that the personal data that it collects and uses is accurate.
- An organisation must also protect personal data in its possession or under its control by making reasonable security arrangements to prevent unauthorised access, collection, use, disclosure, copying, modification or disposal.
- Personal data should not be retained for longer than it is needed.

Failure to comply with the Act could result in complaints to the authorities from the individual concerned and the possibility of civil legal action. There is also the risk of damage to the organisation's reputation from any publicity given to breaches of the Act.

A particular risk for a company may be the threat of a hacker gaining access to the details of a large number of individuals – including perhaps their bank details – and making illegal use of them. The company would then be potentially liable for any subsequent losses that the individuals suffer.

**Emerging issues**

The topic of data privacy in Singapore is still relatively new. In May 2015, the Personal Data Protection Commission (PDPC) issued guidance on the response to and management of data breaches. The guide suggests a range of activities under the mnemonic ‘CARE’:

- **Contain** the data breach – by shutting down the system, for example.
- **Assess** the risks and impact – identify the affected individuals and the consequences.
- **Report** the incident – plan how it is to be communicated, and to whom.
- **Evaluate** the response – are existing measures enough to stop it happening again?

The guidance also emphasises the importance of:

Notifying affected individuals and the authorities (MAS and the PDPC).
Embedding a culture of data privacy in the organisation.
Recognising that the costs associated with data breaches extend beyond the fines that may apply. Costs could also include those related to investigation and rectification, possible litigation and reputational damage.

9.4 Outsourcing IT operations
Companies may outsource some IT activities, such as employee payroll procedures, to a third party. When IT operations are outsourced, the company retains responsibility for the confidentiality, integrity and security of systems and data outsourced.

As a risk management measure, a company using a third party for outsourced operations should carry out due diligence on the integrity and robustness of the third party’s IT systems, to ensure that they comply with its own information security policies and standards, and meet performance standards.

[LINK]

SECTION SUMMARY
This section has considered specific Information Technology risks, and control activities for mitigating those risks.
Chapter Roundup

Risk analysis

Severity + Frequency

Methods
- Risk mapping
- Benchmarking
- Probability analysis
- Sensitivity analysis
- Scenario planning or stress testing
- Simulations
- Real option modelling
- Risk benefit analysis
- Human reliability analysis
- Root cause analysis
- Risk consolidation

Limitations
- Quality
- Amount
- Assumptions

Modelling
- Mathematical

Criteria
- Tolerance
- Rating system
Control activities (COSO framework)

Responses
- Transfer
- Accept
- Reduce
- Avoid

Mitigation
- Operational
- Strategic and financial market

Tolerance limits

Risk types
- Internal control risks
- IT risks

Controls
- Input
- Processing
- Output
- SPAMSOAP

Fraud
- Preventive
- Detective
- Corrective
- Directive

ALARP
- Business continuity
- Risk sharing
- Positive responses
- Reaction planning

Positive responses

Accept

Reduce

Avoid

Operational

Exit

ALARP

IT risks

SPAMSOAP
Quick Quiz

1. What is a risk model?
2. What is the main weakness in simulation modelling?
3. Give an example of benchmarking for risk measurement.
4. Give an example of a risk that may be very difficult, or impossible, to measure quantitatively with any reliable accuracy.
5. Give an example of a preventive control to mitigate the risk of fraud.
6. What is a risk tolerance limit?
7. Give an example of risk sharing.
8. When applying the TARA framework, what action should be taken with a risk that has a high frequency, but is of low severity?
9. What key balance needs to be struck by management when considering its approach to controlling operational risk?
10. What is business continuity planning?
11. What are the three elements of the fraud triangle?
12. How can human resource controls be applied in the context of IT systems security?
Answers to Quick Quiz

1. A risk model is a model for measuring and analysing risk. In business, it is usually a mathematical model, such as a simulation model, or a credit scoring model or a Value at Risk (VaR) model.

2. Lack of sufficient accuracy or realism in the constructed model. A simulation model produces a range of different possible outcomes but may not provide a sufficient quantitative assessment of risk.

3. Financial ratio analysis. For example a company may establish a minimum ratio of current assets to current liabilities as a benchmark for liquidity risk, and risk is assessed by comparing the actual ratio with the benchmark.

4. Reputation risk

5. Answers include: segregation of duties; documentation of all transactions; authorisation and access controls

6. A limit to what is acceptable, such as a loss limit.

7. Joint venture

8. Such risks should be reduced where possible, so some kind of action should be taken. As an example, the credit risk associated with defaulting customers might have a high frequency, but individually low severity. Control action, such as undertaking stringent credit checks, is unlikely to eliminate the risk entirely, but it will reduce it to an acceptable level.

9. For operational risks, management should look to strike a balance between the costs of implementing control measures and the benefits that will result.

10. Business continuity planning is planning for the event of an incident that threatens the continuation of business operations. Organisations should have arrangements in place that would enable them to remain operational in such circumstances.

11. Pressure (motivation). The individual perceives that they have a financial need or financial problem that cannot be resolved by legitimate means.
   
   Opportunity. The individual must see a way of using their position at work to solve the problem.

   Rationalisation. Many individuals who commit fraud at work do so for the first time. They do not see themselves as criminals, but as honest people caught in very difficult circumstances.

12. Human resource controls here will include controls over recruitment and selection of staff, staff training (to reduce the risk of errors and to improve risk awareness) and encouragement of the reporting of security-related incidents.
14.1
Frequency of risk in this example is better described as probability. It is the probability that credit customers will default. Severity or impact is a measure of the loss that will occur if an adverse risk event occurs.

The expected value of loss arising from default by customers can be measured as:

\[
\text{Size of debt } \times \text{ Loss given default (as a % of the debt) } \times \text{ Probability of default}
\]

If the probability of default remains at 1.5% of total credit sales, and any irrecoverable debts have to be fully written off, then the expected value of loss from credit risk can be assessed as:

\[
\text{Total credit sales } \times 100\% \times 1.5\%
\]

If the probability of default rises above 1.5% (because of the customers' lower credit rating) then the expected value of the loss will also rise accordingly. On the other hand, if ABC Company expects to be able to recover some of the debts, the loss given default will be less than 100%, and the expected value of the loss will also be lower.

14.2

Risk A
Risk A should be **accepted**. Although the activity is marginal and could be abandoned, the **high returns** generated outweigh the low likelihood and impact and justify continuing with the activity.

Risk B
Risk B should **probably be avoided**. Although it generates high returns, it is not vital to YGT's continued existence. It is unlikely that the risk appetite determined by the directors should permit YGT to continue to be involved in an activity that is peripheral and which will probably generate large losses.

Risk C
Risk C should be **transferred**. Although it might have a high impact, it cannot be avoided. The scenario mentions alternative actions being taken. These could include insurance or outsourcing production, if the risk is associated with manufacture.

Risk D
Risk D should be reduced. Some action has to be taken to **avoid the business suffering frequent, small losses**. This action clearly cannot include transferring the risk. As the risk is associated with a change in legislation, the action could be whatever is necessary to comply with the new rules. The action could also include reducing the activity or carrying it out in a different way. The directors would need to weigh up the benefits of continuing to carry out the activity at the present level against the increased costs of doing so, and repeat this assessment at other levels or for other methods of performance.

14.3
The fact that internal controls are expensive to implement is not a guarantee that they will achieve the desired effect.

The design of a control is a primary driver of its effectiveness. Even when it looks good on paper, if it is too complicated or difficult to implement staff will be tempted to take short cuts or to ignore the control completely, especially if it hinders day to day operations. Controls may be by-passed or over-ridden by managers.

Internal audit can help in the design of controls that meet the needs of the organisation without putting too great a burden on staff. However, the risk of human error can never be completely eliminated. In addition, controls that are designed to deal with routine control problems may be unable to deal properly with unusual circumstances.

Controls that are over-specified can be treated as a mere box-ticking exercise, generating a great deal of paperwork or electronic records, without achieving the primary aim of addressing risk.
No matter how expensive a control is to implement, it can be circumvented or ignored by staff, either wilfully or accidentally. The risk of collusion between two or more employees to commit fraud may reduce the effectiveness of segregation of duties or supervisory controls.

Even when controls would reduce risks further, it might be too expensive to implement them. For example, the risk of errors associated with operating IT systems might be reduced if the IT director were to become involved, but the cost would not be justified.
This chapter looks at the last two components covered in the COSO Internal Control Framework: Information and Communication, and Monitoring.

We begin by looking at the qualities that the information received by directors needs to have in order to enable them to discharge their duties effectively. However, the board and management will only receive quality information if there are strong communication procedures.

To be effective, internal control systems depend on the provision of information to the individuals who are responsible for the application of controls or for taking action when risk events occur or controls fail. This chapter also considers the characteristics of the information required, and the relevance of cost-benefit analysis when developing a system of controls.

The chapter goes on to examine the monitoring procedures that need to be carried out, involving both ongoing monitoring and separate evaluation exercises. Board monitoring of risk and internal control has as one of its objectives the communication to stakeholders of how the organisation has been addressing the major risks it faces. The final section of the chapter looks at whistleblowing, whereby individuals can report any wrongdoings such as fraud, misconduct or breach of policy.
## Syllabus Handbook

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Cognitive level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management Information in Internal Control</strong></td>
<td></td>
</tr>
<tr>
<td>Evaluate the qualities and characteristics of information required in internal controls, risk management and risk monitoring.</td>
<td>3</td>
</tr>
<tr>
<td>Evaluate the costs and benefits in the development of a management information system and/or enterprise risk management system.</td>
<td>3</td>
</tr>
<tr>
<td><strong>The COSO Internal Control Framework</strong></td>
<td></td>
</tr>
<tr>
<td>Identify and describe the Components of the Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities.</td>
<td>3</td>
</tr>
<tr>
<td>Demonstrate how an organisation should implement the seventeen Principles.</td>
<td>3</td>
</tr>
<tr>
<td>Explain how the Points of Focus should be applied.</td>
<td>3</td>
</tr>
<tr>
<td>Determine whether the Components and Principles are ‘present and functioning’.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Assessment and Measurement of Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Assess the importance and limitations of information for risk management.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Targeting and Monitoring of Risk</strong></td>
<td></td>
</tr>
<tr>
<td>Explain and evaluate the importance of monitoring risks.</td>
<td>3</td>
</tr>
<tr>
<td>Describe and analyse the approach to embedding risk management in an organisation</td>
<td>3</td>
</tr>
</tbody>
</table>

### ESSENTIAL READING


The Principles and related Points of Focus associated with Information and Communication, the fourth component in the COSO Framework are set out below.

<table>
<thead>
<tr>
<th>COSO Principles</th>
<th>Points of focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. The organisation obtains or generates and uses relevant, quality information to support the functioning of other components of internal control.</td>
<td>54. Identifies information requirements</td>
</tr>
<tr>
<td></td>
<td>55. Captures internal and external sources of data</td>
</tr>
<tr>
<td></td>
<td>56. Processes relevant data into information</td>
</tr>
<tr>
<td></td>
<td>57. Maintains quality throughout processing</td>
</tr>
<tr>
<td></td>
<td>58. Considers costs and benefits</td>
</tr>
<tr>
<td>14. The organisation internally communicates information, including objectives and responsibilities for internal control, necessary to support the functioning of other components of internal control.</td>
<td>59. Communicates internal control information</td>
</tr>
<tr>
<td></td>
<td>60. Communicates with the board of directors</td>
</tr>
<tr>
<td></td>
<td>61. Provides separate communication lines</td>
</tr>
<tr>
<td></td>
<td>62. Selects relevant method of communication</td>
</tr>
<tr>
<td>15. The organisation communicates with external parties regarding matters affecting the functioning of other components of internal control.</td>
<td>63. Communicates to external parties</td>
</tr>
<tr>
<td></td>
<td>64. Enables inbound communication</td>
</tr>
<tr>
<td></td>
<td>65. Communicates with the board of directors</td>
</tr>
<tr>
<td></td>
<td>66. Provides separate communication lines</td>
</tr>
<tr>
<td></td>
<td>67. Selects relevant methods of communication</td>
</tr>
</tbody>
</table>

Sections 1 to 5 of this chapter cover the role of information and communication in supporting the internal control function and its objectives.

The Code of Corporate Governance (Principle 6) also reinforces the importance of information being provided to the Board: 'In order to fulfil their responsibilities, directors should be provided with complete, adequate and timely information prior to board meetings and on an on-going basis so as to enable them to make informed decisions and to discharge their duties and responsibilities.'

1.1 Qualities of good information

Systems of internal control and risk management depend crucially on the quality of the management information that is available. For the purpose of internal control, a large proportion of the information is obtained from internal sources within the organisation. Management should therefore have some control over the quality of the information they receive for control purposes.
Principle 13 of the COSO Framework stresses the importance of the board and management having good quality information. The qualities of good information can be stated in general terms as follows.

<table>
<thead>
<tr>
<th>Quality</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate</td>
<td>Information should be sufficiently accurate for its purpose. Information cannot be reliable if it is not accurate enough. This does not mean that information must be 100% accurate. The degree of accuracy required depends on the purpose for which the information will be used.</td>
</tr>
<tr>
<td>Complete</td>
<td>Information should include everything that it ought to include, and should not omit anything of significance. Sufficient accuracy and completeness are the main characteristics that make information reliable.</td>
</tr>
<tr>
<td>Cost-beneficial</td>
<td>The cost of producing the information should not exceed its value and the benefits it provides.</td>
</tr>
<tr>
<td>User-targeted</td>
<td>Information should be provided to meet the needs of the user. For example, a senior manager may require summarised information whereas a person more closely involved in operations may need much more detailed information.</td>
</tr>
<tr>
<td>Relevant</td>
<td>Information should be relevant for the requirements of the user. Irrelevant information can take an individual’s attention away from what is relevant and important.</td>
</tr>
<tr>
<td>Authoritative</td>
<td>The source of the information should be reliable. However, subjective information (such as expert opinions) may be required in addition to objective facts.</td>
</tr>
<tr>
<td>Timely</td>
<td>Information should be available when it is needed and when it can best be used.</td>
</tr>
<tr>
<td>Easy to use</td>
<td>Information should be clearly presented, easily understood, not excessively long, and sent via suitable communication channels (e-mail, telephone, hard-copy report).</td>
</tr>
</tbody>
</table>

These qualities of good information should be considered when an internal control system is designed or reviewed.

- Is the information accurate and reliable?
- For what purpose is the information needed? Is any important item of information missing?
- Is the information provided or available at the most appropriate time? In some cases, unnecessary delays in providing control information can be costly, because a fault or weakness may be discovered later than it should have been.

**SECTION SUMMARY**

This section introduced the fourth component of the COSO Framework and explained what constitutes good information. You should be able to assess the quality of information that may be available to the management of a company, identify deficiencies and recommend improvements.
2 Information requirements for directors

SECTION INTRODUCTION
Directors require information from a variety of sources to get a true picture of what is happening in the organisation’s control systems.

2.1 Types of information

2.1.1 Strategic information

Strategic information is used to plan the objectives of the organisation, and to assess whether the objectives are being met in practice. Such information includes overall profitability, the profitability of different segments of the business, future market prospects, the availability and cost of raising new funds, total cash needs, total manning levels and capital equipment needs.

Strategic information is:
- Derived from both internal and external sources
- Summarised at a high level
- Relevant to the long term
- Concerned with the whole organisation
- Often prepared on an ‘ad hoc’ basis
- Both quantitative and qualitative
- Often uncertain, as the future cannot be accurately predicted

2.1.2 Tactical information

Tactical information is used to decide how the resources of the business should be employed, and to monitor how they are being and have been employed. Such information includes productivity measurements (output per hour), budgetary control reports, variance analysis reports, cash flow forecasts, staffing levels and short-term purchasing requirements.

Tactical information is:
- Primarily generated internally (but may have a limited external component)
- Summarised at a lower level
- Relevant to the short and medium term
- Concerned with activities or departments
- Prepared routinely and regularly
- Based on quantitative measures

2.1.3 Operational information

Operational information is used to ensure that specific operational tasks are planned and carried out as intended.

Operational information is:
- Derived from internal sources such as transaction recording methods
- Detailed, being the processing of raw data (for example transaction reports listing all transactions in a period)
- Relevant to the immediate term
• Task-specific
• Prepared very frequently
• Largely quantitative

2.2 Needs of directors
Board and senior manager involvement is a critical element of internal control systems and the control environment. They will need:

• Financial information – important for internal purposes and to fulfil legal requirements for true and fair external reporting
• Non-financial information such as quality reports, customer complaints, human resource data
• External information about competitors, suppliers, impact of future economic and social trends

There are various ways in which management can obtain the information they need to play the necessary active part in control systems.

2.3 Information sources
The information directors need to be able to monitor controls effectively comes from a wide variety of sources. Directors can obtain information partly through their own efforts. However, if information systems are to work effectively, it is vital that they identify particular people or departments who are responsible for providing particular information. Controls must be built into the systems to ensure that those responsible provide that data.

2.3.1 The directors' own efforts
Directors will receive reports from the audit committee and risk committee. Management walking about and regular visits by the directors to operations may yield valuable insights and should help the directors understand the context in which controls are currently operating.

2.3.2 Reports from subordinates
Principle 14 of the COSO Framework says that there should be systems in place for the internal communication of risk information. The COSO guidelines comment:

‘Among the most critical communications channels is that between top management and the board of directors. Management must keep the board up to date on performance, developments, risk and the functioning of enterprise risk management and other relevant events or issues. The better the communications, the more effective the board will be in carrying out its oversight responsibilities, in acting as a sounding board on critical issues and in providing advice, counsel and direction. By the same token the board should communicate to management what information it needs and provide feedback and direction.’

However, Principle 15 also emphasises the need for the board to use other information sources, including external auditors and regulators. There should be channels for stakeholders who have information about the effectiveness of internal controls to communicate with the company, as well as for external reporting on risk management and internal controls.

2.3.3 Lines of communication
Very importantly directors must ensure that staff have lines of communication that can be used to address concerns. There should be normal communication channels through which most concerns are addressed, but there should also be alternative channels for reporting if normal communication channels are
ineffective. These include communication channels for staff to report, or whistleblowing, particularly serious problems and perhaps active seeking of feedback through staff attitude surveys. Whistleblowing is covered in more detail in the final section of this chapter.

As well as channels existing, it is also important that staff believe that directors and managers want to know about problems and will deal with them effectively. Staff must believe that there will be no reprisals for reporting relevant information.

2.3.4 Reports from control functions

Organisational functions that have a key role to play in internal control systems must report on a regular basis to the board and senior management. One example is the need for a close relationship between internal audit and the audit committee. These are covered in more detail in the next chapter. The human resources function should also report regularly to the board about personnel practices in operational units. Poor human resource management can often be an indicator of future problems with controls, since it may create dissatisfied staff or staff who believe that laxness will be tolerated.

2.3.5 Reports on activities

The board should receive regular reports on certain activities. A good example is major developments in computerised systems. As well as board approval before the start of key stages of the development process, the board needs to be informed of progress and any problems during the course of the project, so that any difficulties with potentially serious consequences can be rapidly addressed.

2.3.6 Reports on resolution of deficiencies

Similarly, the board should obtain evidence to confirm that control deficiencies that have previously been identified have been resolved. When it has been agreed that action should be taken to deal with problems, this should include a timescale for action and also reporting that the actions have been implemented.

2.3.7 Results of checks

The board should receive confirmation as a matter of course that the necessary checks on the operation of the controls have been carried out satisfactorily and that the results have been clearly reported. This includes gaining assurance that the right sort of check has been performed. For example, random checks may be required on high risk areas, such as unauthorised access to computer systems. Sufficient independent evidence from external or internal audit should be obtained to reinforce the evidence supplied by operational units.

2.3.8 Exception reporting

Exception reports highlighting variances in budgeting systems, performance measures, quality targets and planning systems are an important part of the information that management receives. Organisations should have a system of exception reporting that will trigger action if potential risks have been identified.

2.3.9 Feedback from customers

Customer responses, particularly complaints, are important evidence for the board to consider, particularly as regards how controls ensure the quality of output.
2.4 Internal risk reporting

Risk reporting needs to cover all stages of the risk management system and be carried out on a systematic, regular basis. The system also needs to ensure that significant changes in the risk profile are notified quickly to senior management. Reporting of high impact-likelihood risks may occur daily; other risks may be reported monthly or quarterly. The risk register is a key document in risk reporting, not only in terms of identifying risks but also in allocating responsibility for managing, monitoring and reporting.

Reports should show the risk levels before controls are implemented and the residual risk after controls are taken into account.

Reporting also needs to include comparisons of actual risks against predicted risks and feedback on the action taken to manage and reduce risks that the system has identified.

- Have the actions taken fulfilled their objectives?
- What further action is needed?
- Have the costs of taking action justified the benefits?

If risks have not been managed effectively at lower levels of the organisation, senior management may need to take a more active role.

2.5 External reporting on risk management and internal controls

Stricter requirements on external reporting have been introduced because of the contribution of internal control failures to corporate scandals. The requirements have tried to address the concerns of shareholders and other stakeholders that management has exercised proper control.

The board should disclose in the accounts, as a minimum, the existence of a process for managing risks, and how the board has reviewed the effectiveness of the process. The board should also include:

(a) An acknowledgement that they are responsible for the company’s system of internal control and reviewing its effectiveness.

(b) An explanation that such a system is designed to manage rather than eliminate the risk of failure to achieve business objectives, and can only provide reasonable and not absolute assurance against material misstatement or loss.

(c) A summary of the process that the directors (or a board committee) have used to review the effectiveness of the system of internal control and consider the need for an internal audit function if the company does not have one; there should also be disclosure of the process the board has used to deal with material internal control aspects of any significant problems disclosed in the annual accounts.

(d) Information about those deficiencies in internal control that have resulted in material losses, contingencies or uncertainties which require disclosure in the financial statements or the auditor’s report on the financial statements.

The information provided must be meaningful, taking an overall, high-level view. It must also be reliable. The work of the internal audit and audit committee can help ensure reliability.

2.6 Factors affecting extent of reporting

Companies may have a number of reasons for internal control reporting beyond legal compliance. Internal control reporting is an important way for directors to demonstrate their accountability for managing the company. Detailed reporting can be a part of policy, to provide shareholders and other finance suppliers with assurance that controls are operating effectively to limit their risks.

Depending on how much leeway companies have on how they report on risk and control, the following factors may influence what they say.
2.6.1 Interests of users
The directors must also take account of the views of shareholders, who will be interested in learning about the risks that could have most impact on the **value of their investment**, and how these risks are being controlled. These would include **principal strategic and financial risks**, and also **operational risks** that could have severe financial consequences. The views of other principal **stakeholders** will also be important.

2.6.2 Risks materialising or changing over the year
Disclosure of risks that have **significantly changed** will be important, as will how control systems have developed to meet these changes.

2.6.3 Reputation risks
Risks that could cause a significant decline in the organisation's reputation may well be risks about which the board wishes to reassure stakeholders. Disclosures may focus on threats to reputation that may have a large impact on the business, particularly **product safety**.

2.6.4 Limitations on risk disclosures
The board may be less willing to disclose some risks on the grounds of **commercial confidentiality**. Directors may also fear that **disclosures about certain risks** will be **misinterpreted** by readers of the accounts. However, they may also be motivated to include matters covered in the reports of competitors or those identified as **best practice** to demonstrate how they are managing the risks that are common in this industry.

**SECTION SUMMARY**
Directors need information from a large variety of sources to be able to supervise and review the operation of the internal control systems, and to be able to report on them to both internal and external audiences in accordance with the COSO Framework.

3 Communication with employees

**SECTION INTRODUCTION**
All employees have some responsibility for internal control and need to have the necessary skills, knowledge and understanding of the risks the organisation faces.

3.1 Importance of the human element
Procedures improving staff abilities and attitudes should be built into the control framework. Communication of control and risk management issues and strong human resource procedures reinforce the control systems, but they must be well designed. A detailed technical manual covering information technology controls may be of little use if staff lack sufficient knowledge of information technology. Controls may not work very well if staff lack motivation or the basic skills for the job. On the other hand, if good staff are recruited, they may well develop the necessary controls as part of their day-to-day work.
3.2 Improving staff awareness and attitudes

We saw in Chapter 13 in the discussion of the various risk management frameworks that it is important that all staff understand that risk management is an integral, embedded part of the organisation's operations. Principle 14 of the COSO Framework highlights the importance of internal communication of information on the objectives and responsibilities for internal control. It is vital to communicate policies in the following areas.

- Customer relations
- Service levels for both internal and outsourced activities
- Health, safety and environmental protection
- Security of assets and business continuity
- Expenditure
- Accounting, financial and other reporting

The following steps can be taken.

- **Initial guidance** from the chief executive
- **Dissemination of the risk management policy** and codes of conduct as well as of key business objectives and internal control
- **Workshops** on risk management and internal control
- **A greater proportion of the training budget** being spent on internal control
- **Involvement of staff in identifying and responding** to change and in operating warning mechanisms
- **Clear channels of communication** for reporting breaches and other improprieties

**Evidence of embedded risk management** is provided by:

- An environment in which senior management provide leadership on risk management.
- Staff at all levels within the organisation are involved in risk management and are aware of its importance. There is a culture of learning from experience and appropriate accountability for actions.
- Good communication on risk issues.

At a senior level, risk management should be embedded within the strategic planning and budget processes.

- The Board of Directors should assess, at least annually, the effectiveness of the risk management system and systems of internal control.
- The CEO and CFO are responsible for reviewing risk management regularly.

As well as creating a strong culture of risk awareness, it is also important to establish systems and procedures for risk control, to ensure that control is embedded within the organisation.

When risk awareness is embedded in the culture in the mind-set of everyone within an organisation, it becomes much easier to communicate risk controls as an accepted aspect of business operations. Employees will take responsibility for the risks and understand the purpose of controls to mitigate them.
CASE STUDY
Here is an example of an internal communications programme, adapted from an example in the COSO Internal Control Framework.

Internal communications programme
• Management discusses risks and associated risk responses in regular briefings with employees.
• Management regularly communicates entity-wide risks in employee communications such as newsletters and an intranet.
• Enterprise risk management policies, standards and procedures are made readily available to employees along with clear statements requiring compliance.
• Management requires employees to consult with others across the organisation as appropriate when new events are identified.
• Induction sessions for new employees include information and literature on the company's risk management philosophy and enterprise risk management programme.
• Existing employees are required to take courses on the organisation's risk management initiatives.
• The risk management philosophy is reinforced in regular and ongoing internal communication programmes and through specific communication programmes to reinforce the company's culture.

Question 15.1  Risk awareness
Risk awareness is embedded in the culture of the organisation when thinking about risk and the control of risk is a natural and regular part of employee behaviour. Explain what you consider to be key requirements for a risk management system to be embedded within a commercial organisation.

SECTION SUMMARY
This section emphasised the importance of having strong lines of communication with employees to be able to promote the importance of internal control and risk management. Procedures improving staff abilities need to be built into the control framework, as internal control systems are only as good as the people who operate them. Communication of control and risk management issues and strong human resource procedures reinforce the control systems.

4 Limitations of information for risk management

SECTION INTRODUCTION
You should be aware of the limitations of the information that is available for measuring and assessing a risk.
Measurement is based on available information and making a number of assumptions. Inevitably, measurements may be inaccurate or unreliable due to:

- Limitations in the quality and amount of information available, and
- The validity of the assumptions that are made.

Assumptions are often subjective. A problem with subjective judgements is that assessments of risk may be biased, reflecting the risk attitudes of the individual or organisation.

**Example**

Under the so-called Basel rules which have been agreed internationally, banks are required to maintain a minimum amount of capital. The minimum capital requirement is stated as a ratio of the bank's capital to its total risk-weighted assets. This minimum ratio is known as the minimum capital adequacy ratio.

Risk-weighted assets are assets whose amount is adjusted to allow for the amount of risk associated with them: for example a loan to a small company is likely to be more risky than one to a larger well-established company.

Measuring their capital adequacy ratio is a part of the risk management system of every bank. Assets and capital can be measured objectively, but there is a lot of scope for subjectivity in the weightings that banks give to their assets. By reducing the risk weightings for their assets, banks are able to reduce the amount of capital they are required to maintain.

### 4.1 Reasons for unreliable information or data

The information used for measuring risks may be unreliable, for any of the following reasons.

(a) **Incomplete.** The information may be incomplete, or there may be insufficient information to make a measurement with confidence.

(b) **Inaccurate.** The information may be inaccurate because of error or an attempt to deliberately misstate the truth. Without confidence in the accuracy of data, the user cannot make reliable measurements.

(c) **Historical.** Historical data is often an important source, but the manager needs to be aware of changing conditions that alter the significance of risks and reduce data reliability. When events in the business environment are changing rapidly, information may get out of date very quickly.

(d) **Source.** Information may come from a source that is not verifiable, such as unsubstantiated content in an internet website.

(e) **Assumptions.** The information may be based on a large number of assumptions. Assumptions, by their nature, involve the use of judgement and some guesswork.

### 4.2 Consequences of over-estimating or under-estimating risk

If the assessment process **underestimates** the importance of the risks, risk management procedures may be inadequate and insufficient controls may be in place. If an adverse risk event occurs, the company may be unable to deal with it adequately. In addition they would have wasted expenditure on risk management controls and procedures that are insufficient for their purpose.

If the importance of risks is **exaggerated** by the risk assessment process, then excessive measures may be taken to manage these risks. These may involve **unnecessary costs** and **inefficient resource allocation**. The resources could have been better used where they are needed more.
4.3 Policy on information

As a matter of general policy, an organisation may establish systems for obtaining better-quality information, so that management can make better judgements about how to manage risks. Policies to improve the provision of risk information might include:

- Establishing formal reporting systems on risk
- Employing specialist risk officers within the organisation
- Better techniques for measuring risk that suit the needs and the level of sophistication required, such as statistical analysis of risk, and risk modelling or simulation modelling

SECTION SUMMARY

Risk management decisions may be based on unreliable or incomplete information. Managers should try to obtain as much information as they can to assist with the identification and measurement of risks, but they also need to understand its limitations. They should also recognise any bias they may have in reaching judgements and making assumptions.

When risk measurements are based on unreliable data and guesswork, efforts should be made to improve the quality of the information available, so that a better understanding of risks – and how to deal with them – is developed.

5 Costs and benefits of control information

SECTION INTRODUCTION

You should be aware of the cost of information as well as its quality. Information costs money to produce but has value from the use that is made of it. The benefit should exceed the cost.

It is an obvious statement that the benefits from providing information, and so the value of information, should exceed the cost of obtaining it.

It should therefore be a rule that information should not be provided unless its value exceeds its cost. However, this rule may not be easy to apply in practice.

5.1 Cost of information

The cost of control information includes the cost of obtaining it and making it available to use.

- In some situations, it may be possible to prepare a reasonable estimate of the cost of providing information. For example when a new IT system is designed, it may be possible to estimate the systems development, programming and testing time for aspects of the new system that will provide management information or access to information.
- In other situations, information may be produced as an automatic by-product of an operation. Reports on financial trends, ratios and other statistics, for example, are commonly a programmed output from computerised data processing systems.
- In many situations, the cost of obtaining information is not measured, or is difficult to estimate accurately.
The cost of control information also includes the cost of using it. Management may investigate error reports with a view to taking control action, and management time is costly. This is another cost that may be difficult to measure in practice.

### 5.2 Benefits of control information

The benefits of control information may also be difficult to measure.

(a) It is not necessarily easy to estimate the size of the benefits in financial terms. For example, information may be obtained about the number of errors by employees in performing a task, or the number of faulty items produced from a manufacturing process. The information should have value, in helping management to identify problems with the quality of work and taking measures to improve standards; however any estimate of the financial benefits of this information will be based largely on assumptions about the effects of control action. Equally, it may be important to know that costs are out of control, but an adverse expenditure variance of $10,000 does not mean that control action will save $10,000 in costs.

(b) Some benefits may be qualitative and non-financial in nature. For example, a control report may indicate rising customer dissatisfaction with standards of after-sales service. This information can be useful, because it may help management to identify the need for customer service training. However, the financial benefit from the information would be difficult to assess, because it would be difficult to predict the effect of better customer service on profitability.

The benefits of some control information depend on how the information is used. If control information identifies a weakness in a process and the manager responsible takes control action to deal with the weakness, the financial benefit of the information would be the cost savings or improvements in revenue arising as a consequence of the control measures taken. An estimate of these benefits would depend on estimates or assumptions about the:

- Success of control measures in reducing the number of errors.
- Effect of a successful control measure: how much financial gain will be obtained by taking a control action?
- Duration of the effects of the control measures: will the control action have an effect for days, weeks, months or years?

### Question 15.2

When a control system reports a particular performance failure, it costs $2,000 to inspect the cause of the failure. In 25% of occasions, the cause of the failure is found to be something that management can control and put right. The cost of remedial action is $4,000. The benefits from control action are estimated as $20,000. It costs $500 to produce the control report. Is the control system report justified on the basis of its costs and expected benefits?

### SECTION SUMMARY

Control information has set-up and running costs, but there are also benefits from having and using the information. In principle the benefits from information should always exceed the cost of provision and use; however there are problems in measuring both costs and benefits of information.
The COSO Internal Control Framework – Monitoring Activities

SECTION INTRODUCTION

This section considers the final component of the COSO Internal Control Framework, that of Monitoring Activities.

The Principles and related Points of Focus associated with Monitoring Activities, the fifth component in the COSO Framework are set out below.

<table>
<thead>
<tr>
<th>COSO Principles</th>
<th>Points of focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. The organisation selects, develops, and performs ongoing and/or separate evaluations to ascertain whether the components of internal control are present and functioning</td>
<td>68. Considers a mix of ongoing and separate evaluations</td>
</tr>
<tr>
<td></td>
<td>69. Considers rates of change</td>
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<tr>
<td></td>
<td>70. Establishes baseline understanding</td>
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<tr>
<td></td>
<td>71. Uses knowledgeable personnel</td>
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<td></td>
<td>72. Integrates with business processes</td>
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<td></td>
<td>73. Adjusts scope and frequency</td>
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<td></td>
<td>74. Objectively evaluates</td>
</tr>
<tr>
<td>17. The organisation evaluates and communicates internal control deficiencies in a timely manner to those parties responsible for taking corrective action, including senior management and the board of directors, as appropriate</td>
<td>75. Assesses results</td>
</tr>
<tr>
<td></td>
<td>76. Communicates deficiencies to parties responsible for corrective action and to senior management and the board of directors</td>
</tr>
<tr>
<td></td>
<td>77. Monitors corrective actions</td>
</tr>
</tbody>
</table>

6.1 Aims of monitoring

Monitoring should help ensure that internal controls continue to operate effectively and that systems produce accurate and reliable information. It involves the assessment of the design and operation of controls, and involves both ongoing monitoring and separate evaluations. If deficiencies are found, they should be reported, assessed and their root causes corrected.

Correction of root causes may address why staff have made errors. In this case correction processes may include training, discipline or control redesign. It may involve implementing better controls when controls have been found to be inadequate. The aim of correcting root causes distinguishes monitoring procedures from control procedures. Control procedures seek only to correct errors.

Principle 16 of the COSO Framework highlights two fundamental concepts.

(a) **Ongoing monitoring** and **separate evaluation** enable management to determine whether internal controls continue to be ‘present and functioning’ over time.

(i) **Ongoing monitoring** includes routine review of reconciliations and system action applications. It may be particularly effective in smaller companies, since their managers will have high-level first-hand knowledge of the company's activities. Their close involvement in operations should help them identify variances and inaccuracies.

(ii) **Separate evaluation** is generally carried out by the audit committee and internal audit, and also includes annual reviews of control procedures. Separate evaluation is likely to be more difficult if a company does not have an internal audit department, as review of control effectiveness within a business unit by a manager responsible for that unit will lack objectivity.
(b) Internal control deficiencies should be identified and communicated to those responsible for taking corrective action, management and the board.

The COSO Framework emphasises that monitoring should relate to all control objectives, not just financial reporting objectives. It should evaluate the internal control system's ability to manage meaningful risks to organisational objectives.

If the operation of controls is not measured and monitored by management, their effectiveness may deteriorate over time as circumstances change. Different controls will need more monitoring over time as an organisation's strategy develops, and the tolerances allowed by those controls will also need to change.

6.2 Effective and efficient monitoring

Ineffective monitoring results in control breakdowns and material impacts on the organisation's ability to achieve its objectives. Inefficient monitoring leads to a lack of focus on the areas of greatest need. Three elements influence the effectiveness and efficiency of monitoring:

- Establishing a foundation for monitoring that includes a proper tone at the top, an effective organisational structure, a starting point or baseline of non-effective internal control.

- Designing and executing monitoring procedures based on prioritising risks and identifying persuasive information about the operation of key controls that mitigate the significant risks.

- Assessing and reporting results, which includes evaluating the severity of any identified deficiencies, prioritising findings, reporting to the correct level and following up on corrective action.

6.3 Control environment

As we know from the first component of the COSO Framework, in order to be effective the control environment needs to have:

- Emphasis at the top of the organisation about the importance of internal control.

- An organisational structure that places knowledgeable people with appropriate skills and authority, objectivity and competence in monitoring roles.

6.3.1 Prioritising effective monitoring procedures

A business' overall risk assessment process will also influence the scope of monitoring. Key factors will include the size and complexity of the organisation, the nature of the organisation's operations, the purpose for which monitoring is being conducted and the relative importance of the underlying controls.

<table>
<thead>
<tr>
<th>Control importance</th>
<th>Risks controls address</th>
<th>Possible monitoring approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest</td>
<td>High likelihood, high significance</td>
<td>Ongoing monitoring using direct and indirect information, periodic separate evaluation of direct information</td>
</tr>
<tr>
<td>Moderate in short term</td>
<td>Low likelihood, high significance</td>
<td>Ongoing monitoring using indirect information, periodic separate evaluation of direct information</td>
</tr>
<tr>
<td>Moderate in long term</td>
<td>High likelihood, low significance</td>
<td>Ongoing monitoring using direct and indirect information, less frequent separate evaluation of direct information</td>
</tr>
<tr>
<td>Lowest</td>
<td>Low likelihood, low significance</td>
<td>Relatively infrequent separate evaluations</td>
</tr>
</tbody>
</table>

To ensure monitoring has an appropriate risk-based focus, the organisation should establish a structure that firstly ensures that internal control is effective in a given area and focuses monitoring attention on areas of change. This structure will have the following elements.
**Control baseline**  
A reasonable basis for believing internal controls operate effectively.

**Change identification process**  
Identifying changes in processes or risks that indicate controls should have changed; monitoring should focus on the ability of the risk assessment procedures to identify changes in processes or risks that should result in changes in controls and should also assess whether indicators of change in control design and operation are effective.

**Change management process**  
Verifying that the internal control systems have managed changes in controls effectively.

**Control reconfirmation**  
Reconfirming control operation through separate evaluation.

### 6.3.2 Communication structure for monitoring

Under Principle 17 of the COSO Framework the results of monitoring need to be reported to the right people and corrective action taken. Deficiencies in internal controls should be reported to the person responsible for the control’s operation and to at least one level higher. The deficiencies need to be assessed in the same terms as risks, the likelihood that a control will fail to detect or prevent a risk’s occurrence and the significance of the potential impact of the risk.

Where control deficiencies are potentially significant, additional monitoring procedures may be needed during the correction period to protect against errors.

**Effective communication of financial reporting deficiencies** is essential. Deficiencies should not only be reported to management responsible but also to at least one level above. This should help ensure that effective action is taken to deal with problems.

Management should also develop a list of signs of control deficiencies that seriously threaten the reliability of financial reporting. If these are identified, they must be reported to senior management and the board. They include illegal or improper acts, significant loss of assets or evidence of previous improper external financial reporting.

### 6.4 Monitoring procedures

Monitoring procedures may include:

- **Periodic evaluation and testing of controls** by internal audit
- **Continuous monitoring programs** built into information systems
- Analysis of, and appropriate follow-up on, **operating reports** or metrics that might identify anomalies indicative of a control failure
- **Supervisory reviews of controls**, such as reconciliation reviews as a normal part of processing
- **Self-assessment** by the board and management regarding the tone they set in the organisation and the effectiveness of their oversight functions
- **Audit committee enquiries** of internal and external auditors
- **Quality assurance reviews** of the internal audit department

The work of the internal audit department is covered in the next chapter.
6.4.1 Formality of monitoring

**Increased formality** will be required in larger organisations, where managers’ knowledge of day-to-day operational control activities is less. If the results of monitoring are being reported outside the organisation, monitoring will also need to be more formal. In particular the organisation will need to be able to provide evidence that supports the reports made.

Increased formality may include:

- Processes to document and retain monitoring information.
- Policies and processes regarding aggregation, evaluation and reporting of deficiencies to the board, or to the audit and risk committees.

6.5 Reaction planning

Reaction planning means planning in advance what should be done in the event of a breach of controls. There must be policies and procedures for what to do when a control is breached. Here are just a few examples.

- A company has strict limits on capital expenditure, and spending must not exceed the agreed budget level. But what should be done if the capital spending limit is exceeded? Who should be responsible for investigating the breach of control and what should that person be expected to do?
- An international bank has strict loss limits on its foreign currency trading. But what should be done if this limit is exceeded, and one or more foreign currency traders make losses well in excess of the permitted limit? Again, who should be responsible for investigating the breach of control and what should that person be expected to do?
- How should an organisation react to an allegation that is made by a whistle-blower?
- How should a company’s management react to a report from the IT department that there appears to have been a serious virus attack on the company’s IT systems and files by an external hacker? Or that there may have been theft of valuable and confidential data from the organisation’s files by a sophisticated hacker?

**SECTION SUMMARY**

Risk management is a continual process or cycle. An important aspect of risk management is continual monitoring of risks, but also regular review of the control system as a whole, and its effectiveness. The COSO Framework emphasises that monitoring should relate to all control objectives, evaluating the internal control system’s ability to manage or mitigate meaningful risks to organisational objectives.

7 Role of management in monitoring

**SECTION INTRODUCTION**

There is a distinction between the role of senior operational management and that of the board in monitoring performance. Monitoring forms part of management’s role to implement board policies on risk and control, and it should be approached with competence and objectivity.
7.1 Distinction between role of management and role of board

Ongoing monitoring is an essential element of a sound system of internal control. However, the board cannot just rely on management monitoring processes to discharge its responsibilities. It should **regularly receive and review reports on internal control** to ensure that management has implemented an effective monitoring system. It should also carry out an annual assessment that forms the basis of its report on internal controls.

Although the board need not understand the details of every management procedure, it should focus on controls performed directly by senior management, and controls designed to prevent or detect senior management override.

Question 15.3

**Review of internal controls**

What sort of information would help the board carry out an effective review of internal controls?

7.2 Qualities of management

There is an obvious need for **competence** and **objectivity** in management monitoring.

7.2.1 Competence

This relates to managers' knowledge of how controls operates and what constitutes an effective weakness. Managers must be able to identify the **root causes** and to do this they must have knowledge of the underlying control and the risks the control is designed to mitigate.

7.2.2 Objectivity

Different reviewers provide different levels of objectivity. **Self-review**, review of one's own work, is obviously the least objective. **Review by peers or superiors** is more objective. **Review by impartial evaluators** is the most objective. Impartial evaluators may include internal auditors, people from other departments or external parties. However, because impartial evaluators are distant from the operation of controls, they tend to carry out separate evaluations rather than be involved in ongoing monitoring.

7.3 Corporate Governance Code

Principle 11 of the Code of Corporate Governance and its supporting guidelines state that the Board should ensure that management maintains a sound system of risk management, and at least annually should review the adequacy and effectiveness of the risk management system (Guideline 11.2). The Board is likely to delegate the task of review to the Audit Committee (or if there is one, a Board Risk Committee).

The Audit Committee needs to establish a system and procedures for carrying out this review.

- There should be a library of risks that the company maintains and updates regularly, This library may take the form of risk registers.
- There should also be an established framework for risk management, including procedures for identifying and assessing risk, prioritising risks, reviewing risks and risk incidents, individual management responsibilities for risk management and reporting on risk.
WEBSITE
The Monetary Authority of Singapore has published guidance for Boards of Directors on risk management. These can be found at:

7.4 Annual review of controls
When directors are considering the disclosures they are required to make about internal controls, they should conduct an annual review of internal control to cover:
(a) The changes since the last assessment in risks faced, and the company's ability to respond to changes in its business environment
(b) The scope and quality of management's monitoring of risk and internal control and of the work of internal audit
(c) The extent and frequency of reports to the board
(d) Significant controls, failings and deficiencies with material impacts on the accounts
(e) The effectiveness of reporting processes

SECTION SUMMARY
Management is responsible for the implementation of effective monitoring procedures. The board is responsible for ensuring a system of effective monitoring is in place, and for monitoring management's activities.

8 Whistle-blowing policy

SECTION INTRODUCTION
This section describes whistle-blowing policy and procedures, which are a control against fraud and other criminal behaviour.

A whistle-blowing policy is defined in the Guidebook for Audit Committees in Singapore as: ‘a formalised, secure and confidential procedure where employees or any individual can report any wrongdoings such as fraud, misconduct, breach of any health and safety law, or any other illegal act, either on the part of management or by fellow employees.’

A ‘whistle-blower’ is an individual who reports incidents of wrongdoing (or suspected wrongdoing) within an organisation to a person who is outside the normal line of reporting and who is usually independent of management (such as the Audit Committee).

A whistle-blower does not disclose their information to an immediate superior or supervisor. This is usually because either:
- The superior (manager) or supervisor is involved in the incidents of wrongdoing, or
- The individual is concerned about victimisation by colleagues and bosses.
The nature of ‘incidents of wrongdoing’ may be defined differently, but they include activities involving:

- Fraud
- Committing another crime
- A serious breach of regulations

### 8.1 Whistle-blowing and risk management

Whistle-blowing is significant for risk management for two basic reasons.

- Allegations made by a whistle-blower are an indication of a serious failure in controls within the organisation. The circumstances that might result in whistle-blowing occur when normal procedures and internal controls fail to identify the improper activity, because the individuals responsible for the improper activity are somehow able to ignore or get round the existing controls.

- By encouraging whistle-blowers, an organisation may improve risk identification and controls.

In many companies, there is a strong culture of loyalty to the company. Employees who challenge the actions of their managers may be seen as 'traitors' to the company. When they report their suspicions, whistle-blowers may be sacked for making allegations that the company's management accuse of being false and malicious. Experience in many countries appears to show that whistle-blowers are more likely to be dismissed than rewarded.

Some whistle-blowers report their allegations outside the company, to the media. This is a different problem, because reports of wrongdoing by a company in the media could cause reputation damage and harm the company.

The appropriate solution is for an organisation to have a whistle-blowing policy that encourages best practice and 'honest' whistle-blowing, by establishing procedures in which whistle-blowers are protected from unfair treatment (such as dismissal). A system for listening to employees' concerns, and investigating them, should be a part of the risk management system of an organisation, because diligent employees can act as an early warning system of problems and failing controls.

Companies should establish a whistle-blowing system that:

- Encourages employees to report illegal or unethical behaviour (as defined by the company's whistle-blowing policy), but
- Discourages malicious and unfounded allegations

### 8.2 Establishing whistle-blowing procedures

The *Guidebook for Audit Committees in Singapore*, published by the Accounting and Corporate Regulatory Authority (available at www.acra.gov.sg) provides guidance on whistle-blowing policy. The Guidebook suggests that the scope of a whistle-blowing policy should be defined as:

- Unethical or improper practices or alleged wrongful conduct relating to financial reporting or other related matters.
- Non-compliance with regulatory requirements or company policy relating to financial reporting or related matters.
- Questionable or suspicious practices relating to audit matters or accounting policies or treatments.
- Any other acts that may have a material impact on the company’s operating results or financial position.

The existence of a whistle-blowing policy should be communicated regularly to staff, so that staff are aware of its existence.
The person who may be the person authorised to receive confidential reports from a whistle-blower should be someone who is independent and unlikely to be subject to influence by management. These individuals may be:

- The Audit Committee Chairman
- The Company Secretary or an external party such as a legal adviser
- The Head of the Internal Audit department
- A dedicated team that handles alleged misconduct and has a direct reporting line to Independent Directors of the company

The **recipient of whistle-blowing reports** should have several responsibilities:

- To submit feedback about each report to the Audit Committee, for the AC to decide what action to take: the AC should be responsible for deciding how to deal with allegations from a whistle-blower.
- To ensure that whistle-blowing reports are kept secure and that there is restricted user access.
- To ensure that the identity of whistle-blowers is kept confidential.

If the identity of a whistle-blower becomes known, measures should be taken to protect them against reprisals.

A good whistle-blowing policy will make it clear that the organisation takes malpractice or misconduct seriously, and should give examples of the types of misconduct for which employees should use the procedure. Employees should also understand that:

- It is a disciplinary matter for anyone to victimise a ‘bona fide’ whistle blower.
- It is also a disciplinary offence for anyone maliciously to make a false allegation.

The Guidebook comments, however, that no matter how good the written policy on whistle blowing, ‘how it works in practice is critical’

### 8.3 Review by the AC of whistle-blowing arrangements

Whistle-blowing procedures are a requirement of good corporate governance and a role of the Audit Committee is to ensure that proper arrangements are in place, so that employees can feel secure if they make a confidential report about wrongdoing and can be confident that their allegation will be properly investigated.

The Code of Corporate Governance 2012 guideline 12.7 states that: ‘The AC [Audit Committee] should review the policy and arrangements by which staff of the company and any other persons may, in confidence, raise concerns about possible improprieties in matters of financial reporting and other matters. The AC's objective should be to ensure that arrangements are in place for such concerns to be raised and independently investigated, and for appropriate follow-up action to be taken.’

In addition, the existence of a whistle-blowing policy should be disclosed in the company's Annual Report.

A company can decide what its whistle-blowing procedures should be. For example, a whistle-blower may be required to report his/her suspicions to the Audit Committee Chairman, the Company Secretary, a legal adviser to the company, or the head of Internal Audit. Several methods of sending a report may also be permitted, such as email or postal letter.

The Guidebook for Audit Committees in Singapore includes a list of questions that the Audit Committee may wish to consider when conducting a review of whistle-blowing policy. These include:

- Does the policy set the right tone to encourage employees to blow the whistle?
- Are there adequate procedures for tracking the actions that are taken in response to a whistle-blower's allegation and, where appropriate, for resolving problems that are revealed?
- Are confidentiality issues properly addressed by the policy?
Does the policy specify protection for whistle-blowers?

Are there procedures for the timely distribution of complaints to appropriate individuals and, where appropriate, to the Audit Committee or the Board?

If an organisation does not establish appropriate whistle-blowing procedures, individuals may see a need to report their suspicion or complaint to the Corrupt Practices Investigation Bureau.

An effective whistle-blowing policy is good business practice for any organisation in which there are well-established formal reporting channels, and whistle-blowing can offer an alternative channel for reporting that would not otherwise exist. Whistle-blowing policy and procedures are therefore equally applicable to profit, not-for-profit, and government organisations.

**Question 15.4**

SPS Pte Ltd established a formal whistle-blowing procedure four years ago following the arrest and criminal prosecution of one of the company's directors for fraud. Whistle blowers are required to report any concerns they have to the head of the internal audit section who decides whether the matter should be referred to the Board of Directors.

Since the procedure was introduced, there have been three instances of reports by whistle blowers. One of the whistle blowers was dismissed for making false and malicious allegations. The other two resigned from the company several months after making their reports.

The head of internal audit referred one of the three allegations to the Board of Directors. The Board has referred the matter to the Audit Committee for consideration, and the Audit Committee has not yet reached any conclusions or made any recommendations to the Board.

**Required**

Suggest what the weaknesses may be in the company's whistle blowing system.

**SECTION SUMMARY**

This section has explained the nature of whistle-blowing. Companies should have a whistle-blowing policy and procedures that encourage employees to report suspicion or knowledge of improper activities within the organisation when they do not feel that they can use normal reporting channels. Allegations should be investigated independently and corrective measures taken when appropriate. 'Honest' whistle-blowers should be protected from victimisation by colleagues and bosses.
Chapter Roundup

Quick Quiz

1. Who should be responsible within a company for reviewing the effectiveness of the whistle-blowing system?
2. What is reaction planning within a risk management and internal control system?
3. What are the problems with reporting irrelevant information for control purposes?
4. What are the main costs and benefits of a system of quality control checks to inspect goods produced from a manufacturing process?
5. What does the 'U' stand for in the 'ACCURATE' mnemonic for the qualities of good information?
6. What evidence could the Board obtain to confirm that control deficiencies have been resolved?
7. How often should the Board assess the effectiveness of the risk management system and internal control systems?
8. Give examples of policies that could improve the provision of risk information.
9. What elements are included in the cost of information?
10. What concept is contained within Principle 16 of the COSO Framework?
11. Give an example of an 'impartial evaluator' of the operation of a control system.
12. What are the limitations of historical information for measuring risk?
Answers to Quick Quiz

1. Audit Committee
2. Formulation of plans and procedures for reacting to risk events that occur.
3. Irrelevant information has no value, but it costs money to prepare. It can also distract the attention of management from what is relevant, and waste management time unnecessarily.
4. There are costs involved in designing inspection checks and carrying out inspections of output from the system. There may be benefits over time in reducing the failure rate or the proportion of defective goods produced. There will also be savings from identifying faulty goods early, so that they are not despatched to customers: this should reduce the cost of customer returns and repairs under warranty. In the long run there may also be an improvement in customer satisfaction, but this may be difficult to evaluate.
5. User targeted – information should meet the needs of the user. Senior management may require less detail than a person more closely involved in operations.
6. When it has been agreed that action should be taken to deal with deficiencies, evidence of progress might be provided by an agreed timescale for action, and regular reports detailing what actions have been implemented.
7. The Board of Directors assess the effectiveness of the risk management system and systems of internal control at least annually.
8. Establishing formal reporting systems on risk; employing specialist risk officers; employing appropriate analysis techniques for the users concerned.
9. The cost of obtaining it (such as the setting up of a new IT system) and the cost of using it (such as management time spent on analysis)
10. As part of its Monitoring Activities, the organisation can perform both ongoing and separate evaluations to ascertain whether the components of internal control are present and functioning.
11. Internal auditors; people from other departments; external parties.
12. Historical data is often an important source, but the manager needs to be aware of changing conditions that alter the significance of risks and reduce data reliability. When events in the business environment are changing rapidly, information may get out of date very quickly.

Answers to Questions

15.1

The board of directors, fully supported by senior management, has the primary responsibility for embedding risk management within their organisation. Directors and senior executives must show their own commitment to the management of risk in the things that they say and do.

- There should be reporting systems in place for regularly and continually disclosing issues relating to risk. There should be a sharing of risk-related information between management, and a reporting system that consolidates risks at higher levels of management.
- Managers and other employees should understand the need to disclose information about risks and also about failures in risk control.
- There should be a general recognition that problems should not be kept hidden. Risk management failures should be reported as soon as they are identified, so that constructive control measures can be taken. Early reporting and control action is likely to reduce the loss from any risk event.
• There must be openness and transparency. Employees should be willing to admit to mistakes. However, openness and transparency will not exist if there is a ‘blame’ culture. Individuals should not be criticised for making mistakes, provided that they own up to them promptly – and learn from them.

• The normal culture should be that problems with risks will always occur. Risk management should be a constructive process. When problems occur, the aim should be to take measures to deal with the problem. Mistakes should be analysed in order to find solutions and prevent them from happening again.

15.2

The expected value of the costs of investigation and correcting a fault are
\[ 500 + 2,000 + 0.25 \times 4,000 = 3,500. \]

The expected value of benefits is
\[ 0.25 \times 20,000 = 5,000. \]

On the basis of expected values, the control report is worth the cost of its production by $(5,000 – 3,500) = $1,500.

15.3

Here is a list of possible considerations for information required in order to carry out an effective review:

(i) The organisation's own code of conduct
(ii) Confirmation that line managers are clear as to their objectives
(iii) The overall results of a control review process by line management or staff
(iv) A report from the audit committee on the key procedures which are designed to provide effective internal control
(v) Reports from internal audit on audits performed and the effectiveness of internal controls
(vi) The audit committee's assessment of the effectiveness of internal audit
(vii) The external auditors' report
(viii) Information gathered by board members during the year
(ix) A report on any material developments
(x) The board's proposed wording of the internal control report for publication

15.4

It is significant that in the four years during which the whistle-blowing procedure has been established, there has not been one case where a whistle-blower has made an allegation where the Board has responded with decisive action. One allegation is still under review, but the other two were not even reported to the Board.

This situation raises the question: Have there been no instances of misbehaviour in the company that should have been reported and acted on? Or does the whistle-blowing system deter individuals from reporting their concerns?

Weaknesses in the system that may be apparent from the information provided are as follows.

(a) The head of internal audit may not be sympathetic to allegations from whistle-blowers. Of the three cases in the past four years, only one has been reported to the Board.

(b) The dismissal of the employee for malicious allegations would almost certainly act as a deterrent to other individuals. There is no information about the evidence that the report was malicious, and no information to indicate the standard of proof that a whistle-blower may be expected to provide.

(c) One whistle-blower was dismissed and two resigned soon after making their allegations. This gives a strong suggestion that whistle-blowers may be victimised, by their bosses or their colleagues – or both. Victimisation makes it extremely difficult for individuals to remain in their job.
(d) When the Board receives a report from a whistle-blower, it should take immediate action, and should be seen to deal with the problem urgently and fairly. The Board and the Audit Committee do not appear to have acted promptly in the one case that has been reported to them. Failure to act against whistle-blowers’ allegations urgently gives a negative sign to employees – that the Board is not serious about the system. A risk awareness culture may not be sufficiently embedded in the company.

(e) There may be other reasons why the whistle-blowing procedure has not been successful. For example, many employees may be unaware that the procedure exists.
INTERNAL CONTROL
AND AUDIT IN
CORPORATE
GOVERNANCE

The Board has a corporate governance responsibility to ensure the effectiveness of the risk management and internal control systems in the company. It also has governance responsibilities for ensuring that the company's financial statements give a true and fair view of the company's operations and position.

The external auditors provide shareholders with an independent professional opinion on the company's published accounts. To do this they test the adequacy of the financial controls in the company. The conduct of the audit, and the audit opinion that the external auditors reach, depend on the outcome of their tests.

The board of directors has a responsibility to ensure that the external auditors remain independent of the company's management so that they can give their independent opinion to shareholders. There should be some controls to protect auditor independence.

The Audit Committee (AC) of the board has the responsibility, delegated from the board, to review the effectiveness of the system of internal control. The committee uses reports from management and the external auditors to help them reach their opinion, but they also rely on reports from internal auditors.

This chapter considers the responsibilities of the board for monitoring the effectiveness of the internal control and risk management systems, and the functions of external and internal audit.

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ESSENTIAL READING


Singapore Exchange Listing Rules and adequacy of internal controls: see Rule 610 (5) and (6) and Chapter 12 (07); also Practice Note 12B: Adequacy of Internal Controls, available at http://rulebook.sgx.com/net_file_store/new_rulebooks/c/a/Catalist_April_2_2013.pdf

1 Corporate governance and internal controls

SECTION INTRODUCTION

This introductory section explains the guidelines in the Code of Corporate Governance with regard to internal control.
1.1 Financial reporting, internal controls and the Code of Corporate Governance 2012

The Code of Corporate Governance 2012 (principle 11) states that the Board of Directors is responsible for the governance of risk. As part of this responsibility, the Board must ensure that there is a sound system of internal control. The Board is also responsible for the reliability of the company's financial statements.

As the Board is not an executive body, it must fulfil these responsibilities by means of monitoring and review, and the Code of Corporate Governance contains the following guidelines.

(a) At least annually, the Board should review the adequacy and effectiveness of the risk management and internal control systems, including financial, operational, compliance and information technology controls (guideline 11.2)

(b) In the annual report, the Board should comment on whether it has received assurance from the Chief Executive Officer and Chief Finance Officer:

- That the financial records have been properly maintained and the financial statements give a true and fair view of the company's operations and finances, and

- Regarding the effectiveness of the risk management and internal control systems. (guideline 11.3)

The review of the risk management and internal control systems may be 'carried out internally or with the assistance of any third parties.' A third party may be an independent firm of auditors. Internal review may involve assistance from an internal audit function.

**SECTION SUMMARY**

The Board has a responsibility for ensuring the adequacy and effectiveness of the risk management and internal control systems. The Board must also ensure that the company's financial statements give a true and fair view, and this aspect of corporate governance is reviewed by external auditors.

Important aspects of corporate governance are the interaction between the Board and both the external and internal auditors.

2 Audit Committee (AC)

**SECTION INTRODUCTION**

The Code of Corporate Governance specifies the responsibilities of the AC.

2.1 AC size and composition

The Code of Corporate Governance 2012 (principle 12) states that the Board should establish an Audit Committee (AC). Guideline 12.1 states that the AC should consist of at least three Non-Executive Directors and the majority of these (including the AC Chairman) should be independent. There should be no executive directors on the AC. However, in most companies the CEO and CFO are invited to attend meetings of the Audit Committee, as required by the Committee, to provide management input to the discussions.
Guideline 12.2 states that the members of the AC should be suitably qualified to carry out their committee responsibilities, and at least two AC members, including the AC Chairman, should have ‘recent and relevant accounting or related financial management expertise or experience’.

(Note: It may be useful to remember that companies may not have a large number of independent NEDs on the Board of Directors, so that the NEDs are required to act as committee members on two or more Board committees. This may create a risk that they do not have sufficient time to fulfil their committee roles as effectively as they perhaps should. The Board should consider membership of the AC, and the need for members of the committee to have sufficient time for their work, even if this requires an addition to the number of independent NEDs on the Board.)

2.2 AC responsibilities

The Code does not specify what all the responsibilities of an AC might be, although the AC should have written terms of reference which set out clearly its authority and duties. However the Code (guideline 12.4) specifies that the duties of the AC should include the following.

(a) To review the significant financial reporting issues and judgements that have been made to ensure the integrity of the company's financial statements and any other financial announcements by the company.

(b) To review and report to the Board, at least annually, on the adequacy and effectiveness of the company's internal controls (financial, operational, compliance and IT controls).

(c) To review the effectiveness of the company's internal audit function.

(d) To review the scope and results of the external audit, and the independence and objectivity of the independent auditors.

(e) To make recommendations to the Board about the appointment, re-appointment or removal of the external auditors (for proposing to the shareholders) and approving the remuneration and terms of engagement of the external auditors.

The Board is therefore required to delegate many of its responsibilities for reviewing the adequacy and effectiveness of the internal control system and for the reliability of the company's financial statements to the AC. The AC does the work, and makes reports and recommendations to the full Board.

Question 16.1

As part of its duty to report to the Board on the adequacy of internal controls, what sources of information are likely to be available to the audit committee?

SECTION SUMMARY

The AC has responsibilities both for the external audit and the effectiveness of the system of internal controls. This responsibility extends to operational, compliance and information technology controls, as well as financial controls.
3 External audit and internal controls

SECTION INTRODUCTION

This section considers the reliance that external auditors place on internal controls in the conduct of the external audit.

3.1 External audit

The Board of Directors makes itself accountable to the shareholders through the annual report and accounts. This document is used by shareholders to assess how well the company has been governed and managed, and how successful it has been in achieving its objectives.

A risk for shareholders is that the report and accounts may be misleading or inaccurate. The reliability of the annual accounts depends on several factors:

- The honesty of the company's management in preparing them
- The care taken by the Board of Directors in reaching their view that the financial statements give a 'true and fair view'
- The opinion of the external auditors

The purpose of an external audit is to provide shareholders with an independent professional opinion about whether the financial statements present a true and fair view of the company's operations and position. This opinion is based on an examination of the company's accounting records and systems.

Reliable financial reporting is an essential requirement of good corporate governance. Concern about the standards of corporate governance has its origins in financial reporting scandals. When a major company collapses unexpectedly, it is often found that the company's management had hidden the true state of affairs of the company by publishing misleading accounts. The first corporate governance code in the UK in 1992 (the so-called Cadbury Code) was issued following concerns about the collapse of several public companies, including Maxwell Communication Corporation in 1991. In the USA, corporate governance laws were strengthened in 2002 by the Sarbanes-Oxley Act following the collapse of major corporations such as Enron and WorldCom.

The need for an independent audit opinion about the reliability of a company's published accounts is consequently seen as a key ingredient of a sound system of corporate governance.

3.2 Auditor reliance on internal financial controls

This text does not go into detail about the external audit process. However it is important to understand that when auditors carry out the audit of financial statements, they rely extensively on the financial controls in the company. The auditors assume that if the financial controls are robust and effective, the financial information produced by the company should be reliable.

- Much of the audit work may therefore be directed towards testing the financial controls and reaching a professional opinion about their effectiveness.
- They also carry out substantive tests on transactions and other data, to confirm their view about the effectiveness of the controls.
3.3 Reporting weaknesses in financial controls

If the external auditors come across weaknesses in financial controls during the course of the audit, they report these to the company's management.

(a) If the weaknesses are not considered serious, they are reported in a management letter at the end of the audit. The AC should also be informed, so that it can subsequently check what management has done in response to the auditors' comments.

(b) Where serious weaknesses are discovered in financial controls, this will raise questions about the reliability of the financial statements. If there are concerns about the financial statements, this will affect the content of the auditors' report.

The Monetary Authority of Singapore has issued guidelines to banks and insurers about the Code of Corporate Governance 2012. This guidance includes a requirement for the AC to ensure that it is informed by the auditors about internal control weaknesses: ‘The AC should require that the external auditors promptly communicate to the AC any information regarding internal control weaknesses or deficiencies. The AC should ensure that significant findings and observations regarding weaknesses are promptly rectified and that this is supported by a formal process for reviewing and monitoring the implementation of recommendations by the external auditors.’

Guidance to auditors is provided in SSA 260 (Revised): *Communication with Those Charged with Governance* and SSA 265: *Communicating Deficiencies in Internal Control to those Charged with Governance and Management*.

3.4 External audit and fraud

The Board of Directors is responsible for the effectiveness of the system of internal control, including controls to mitigate the risk of fraud.

The external auditors do not have a responsibility to detect fraud, and they do not have any responsibility for fraud controls. (See also SSA 240: *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*).

However the auditors will assess the risk or possibility that fraud might have occurred, causing the financial statements to be materially misstated. They therefore design audit procedures that will provide reasonable assurance that material fraud or error has not occurred.

- If they identify weaknesses in internal controls that may expose the company to a significant risk of fraud, the auditors should report this to management and the AC. (See also SSA 265: *Communicating Deficiencies in Internal Control to those Charged with Governance and Management*.)

- If they discover fraud or a suspicion of fraud during the course of an audit, they should report their findings to management and the AC. If the circumstances warrant it, the auditors should also request a special audit and/or make a Suspicious Transaction Report to the Suspicious Transaction Reporting Office (STRO) of the Commercial Affairs Department of the Singapore Police Force.

**SECTION SUMMARY**

The external auditors hope to rely on the effectiveness of the company's internal controls when performing the annual audit, and they test the effectiveness of controls as part of the audit.

They are not responsible for the effectiveness of internal controls, but they report weaknesses (and also suspicions of fraud) in controls to management and the AC.
4 Financial reporting and the roles of the external auditor and the Audit Committee

SECTION INTRODUCTION
This section considers the responsibility of the AC for monitoring the scope and results of the external audit.

4.1 Financial reporting and the external auditor: the audit expectations gap
Management, not the AC, is responsible for preparing complete and accurate financial statements. There can be an 'audit expectations gap' between what the general public expects from an external audit and what the audit profession considers to be the objective of an audit. Typical misconceptions are that:

- Auditors have primary responsibility for the financial statements of the company
- Auditors 'certify' the financial statements
- Auditors perform 100% checks of the financial records
- Auditors give an early warning about a possible business failure of the company

None of these views are correct. The primary objective of an external audit is to add credibility to the financial statements.

4.2 Financial reporting and the role of the Audit Committee
A role of the AC is to review the significant financial reporting issues and judgements that are made in connection with these statements, taking into consideration any matters communicated to the AC by the auditors.

- The AC should consider the significant accounting policies that are used to prepare the statements, and any significant estimates or judgements on which the statements have been based.
- Management should inform the AC about the methods they have used to account for significant or unusual transactions.

If the AC is not satisfied with any aspect of the proposed financial reporting by the management, it should report its views to the Board.

4.3 The AC and the annual audit cycle
The AC has a responsibility to review the scope and results of the external audit. At the end of the audit cycle, the AC should assess the effectiveness of the audit process.

- The AC should consider whether the auditors' overall work plan or the audit (including the resources to carry out the audit) is consistent with the scope of the audit engagement. In other words, did the auditors prepare a suitable work plan and was the work adequately resourced?
- The AC should discuss with the external auditors their findings from the audit. As part of this discussion, the committee should ask about any major issues that arose during the audit (and whether these have been resolved). The AC should also review key accounting or audit judgements and the level of errors that were identified during the audit.
- The AC should also discuss the auditor's letter to management at the end of the audit and the response of the company's management to the auditors' findings and recommendations, including weaknesses discovered in internal controls.
As a part of its annual review, the AC should assess the work of the auditors as far as they can. The AC members should consider the handling of key accounting and audit judgements by the auditors, and in their comments on the appropriateness of the company's internal controls and any internal control weaknesses.

At the end of their review, the AC should report to the Board on the effectiveness of the external audit process.

4.4 Annual report and the AC

The Code of Corporate Governance 2012 (guideline 12.8) requires that in its annual report, the Board should:

- Provide a summary of all the AC's activities, and
- Disclose the measures that have been taken by the AC members to keep abreast of changes to accounting standards and other issues which affect financial statements.

Guideline 12.6 states the AC should provide information in the annual report about the amount of audit fees and non-audit fees earned by the audit firm in the year. The report should also disclose the existence of a whistle-blowing policy (guideline 12.7).

As mentioned previously, the Code (guideline 11.3) requires that the Board should comment in the annual report on the adequacy and effectiveness of the internal controls, including financial, operational, compliance and information technology controls, and risk management systems. This commentary should include information that will enable stakeholders to make an informed assessment of the company's internal control and risk management systems.

The Board should also comment in the annual report on whether it has received assurance from the CEO and the CFO:

- That the financial records have been properly maintained and the financial statements give a true and fair view of the company's operations and finances, and
- Regarding the effectiveness of the company's risk management and internal control systems.

SECTION SUMMARY

The external auditors provide an independent report to the shareholders about the company's financial statements and the AC is responsible for reviewing the quality of the audit.

5 Independence of the external auditors

SECTION INTRODUCTION

The AC is also responsible for reviewing the independence and objectivity of the external auditors. As part of this responsibility it should consider taking measures to protect the independence of the auditors from undue influence from management or the AC itself.
5.1 Protecting external auditor independence

In their audit report, the external auditors give an independent professional opinion to the shareholders about the financial statements and whether these give a true and fair view of the company's financial performance and position. The Board (or the AC, acting for the Board) should try to ensure that the external auditors remain independent, and in particular do not come under the influence of the company's executive management (CEO or CFO).

The external auditor should be independent of the client company, so that the audit opinion is not influenced by the relationship between the auditor and the company. (See also The Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities.)

Unless suitable corporate governance measures are in place to protect their independence, a firm of auditors may reach audit opinions and judgements that are heavily influenced by their wish to maintain good relations with the management of a client company. If this happens, the auditors are no longer independent and the shareholders cannot rely on their opinion.

The Code of Corporate Governance contains a number of guidelines that are intended to protect external auditor independence.

(a) Guideline 12.5 – The AC should meet at least annually with the external auditors, without any executive management present at the meeting. This should enable the AC and external auditors to discuss issues, and in particular issues relating to financial reporting issues and judgements, or the adequacy of particular internal controls, without the risk of interference from management.

(b) Guideline 12.6 – The AC should review the independence of the external auditors annually. In the annual report it should provide information about the amount of fee income paid to the external auditors for audit and non-audit services respectively. There is a risk that auditor independence may be threatened by the non-audit work that the firm performs for the company, especially when it brings in a large amount of fee income. The Code therefore includes a requirement that where the external auditors provide a substantial amount of non-audit services to the company, the AC should keep under review the nature and extent of these services, with a view to checking that audit firm independence is not threatened.

(c) The audit firm must also be independent from the AC. The Code (guideline 12.9) specifies that a former partner or director in the company's audit firm should not become a member of the AC within 12 months of ceasing to be a partner or director of the audit firm, or for as long as he has any interest in the audit firm. (In comparison, the Institute of Chartered Accountants in England and Wales has introduced a rule that public companies should not be allowed to appoint a former auditor of the company to the Board for at least two years after the individual concerned has left the audit firm.)

5.2 Threats to auditor independence

The most significant threat to auditor independence is probably the desire of the audit firm to retain the company as an audit client, and its concern that by challenging the financial statements too strongly, it will lose the audit work. Although the AC has responsibility for recommending the appointment of the auditors, in practice the opinions of senior management often influence the AC's view.

The auditor is therefore often reliant for future audit work from the company on the views of the management whose financial statements it is their job to audit.

The audit profession has identified five categories of potential threats to auditor independence, but in practice the two biggest threats are self-interest threat and familiarity threat.

- **Self-interest threat.** This is the threat that an auditor earns such a large amount of fee income from the audit and non-audit work that its opinions will be affected by a wish to protect this income stream.
• **Familiarity threat.** An auditor may be familiar with a company or one of its directors or senior managers, or it may become familiar with them through a working association over time. Familiarity leads to trust and a willingness to believe what the other person says and accept that person's judgements and opinions, without exercising sufficient professional scepticism.

Measures are needed to limit the threats to auditor independence to an acceptable level of risk. The audit profession requires auditors to protect their independence. However it is also a responsibility of a company's directors and management to reduce the threats to auditor independence. Three ways in which this might be possible are:

- Restricting the amount of non-audit work that the audit firm performs for the company, in order to reduce the reliance of the audit firm on fee income from the company.
- Regular rotation of either the audit firm or the audit partner and other senior members of the audit team. In Singapore, listed companies are required to rotate the audit partner for a client company (at least) every five years.
- A requirement for companies to put their audit out to tender on a regular basis. (In the UK, a requirement is being introduced for large listed companies to put their audit out to tender at least every ten years).

(See also the guidance provided in *The Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities*.)

**Question 16.2**

Explain the role of the external auditors in contributing towards a proper system of corporate governance, and describe what the relationship should be between the external auditors and the Audit Committee (AC).

**SECTION SUMMARY**

The external auditor has a responsibility to remain independent of a client company, but there are some guidelines in corporate governance that a company can take to reduce the risk that the auditors may not remain independent. These include limiting the amount of non-audit work and regular rotation of audit partners or audit firms.

**6 Annual assessment of the effectiveness of internal control**

**SECTION INTRODUCTION**

The Board and AC have a responsibility to review the effectiveness of the risk management and internal control systems. The AC can do this through reports from different sources inside and outside the company.

**6.1 Requirement for a Board opinion on internal controls**

The listing rules of the Singapore Exchange (SGX) require the Board of Directors of Mainboard and Catalist companies to provide an opinion on the adequacy of internal controls in the company. Mainboard rule 1207 (10) states that the annual report must contain enough information for a proper understanding
of the performance and financial conditions of the issuer and its principal subsidiaries, including the 'opinion of the Board with the concurrence of the Audit Committee on the adequacy of the internal controls, addressing financial, operational and compliance risks.'

It is not sufficient for the Board to declare that in the absence of evidence to the contrary, they assume that the internal controls are adequate. The listing rules require that the Board must give an explicit opinion about the adequacy of controls.

Although the Board must express this opinion in its annual report, the responsibility for reviewing the internal controls falls initially on the AC. The SGX Listing Requirement can be compared with Guideline 11.3 of the Code of Corporate Governance. The Code requires the Board to include in the annual report a comment on the adequacy and effectiveness of internal controls, including financial, operational, compliance and Information Technology controls, and the risk management system.

Adequacy of internal controls means that there should be a sufficient amount of controls. Effectiveness means that they should achieve their intended or desired results.

6.2 AC assessment of internal control

In addition to conducting reviews of controls at their meetings on the basis of management reports and auditors' reports, the AC should make an assessment each year of the adequacy and effectiveness of the system of internal control.

This annual assessment should consider:

- Changes since the previous annual assessment in the significant risks exposure of the company
- The reports it has received through the year from management and the internal auditors
- The significant weaknesses and failures in control that have been identified during the year, and their impact on the performance and financial position of the company

6.3 Main sources of information for the review

The AC is not an executive body, and it meets only occasionally. It needs to ensure that on the occasions that it does meet, it has been provided with sufficient information to reach a well-considered view about the effectiveness of the internal control system. There are three main sources of information:

- **Management.** The AC should receive regular reports from senior management about risks and the effectiveness of risk controls. These reports may be submitted by the CEO or the CFO, or possibly by the Group Risk Management Committee. The AC needs to understand what management is doing to ensure that internal controls are sufficient and are kept continually under review.

  In addition, the AC or the Board may require the CEO and CFO to provide formal certification of the adequacy of the internal controls. The Code of Corporate Governance (guideline 11.3) requires the annual report to include a statement by the Board about whether it has received assurance from the CEO and CFO that the financial records have been properly maintained, the financial statements give a true and fair view and regarding the effectiveness of the internal control and risk management systems. Such assurance may be provided to the Board via the AC in a formal certificate or document.

- **External audit.** Information about weaknesses in internal controls may be reported by the auditors as part of their feedback on the external audit, in a Management Letter. The AC should be given a copy of this report and should review it.

- **Internal audit.** The AC should also rely on reports from the internal audit function, which should be objective and independent from the views of management. (SSA 610: Using the Work of Internal Auditors provides further guidance on this subject.)
The frequency and content of management reports and internal audit reports will differ according to the size, nature and complexity of the business.

### 6.4 Matters to consider in a review of internal control

A review of the system of internal control should cover the **entire system**, not just the internal controls within the system. A review should consider the effectiveness of the organisation and procedures for identifying and assessing risks; procedures for the communication of information about risks and controls; and processes for the monitoring of the effectiveness of controls.

- **The purpose of an internal control procedure or arrangement** may be to prevent errors, or detect errors that occur, or (in some cases) correct errors that have occurred and have been detected. A review of controls should consider whether the existing internal controls are performing their intended function properly.

- **There are two aspects to the effectiveness of controls:**
  - **Design effectiveness.** Internal controls should be designed to fulfill their intended purpose. If controls are poorly designed, they will not be effective in providing control.
  - **Effectiveness of implementation.** Controls may be well designed, but may not be implemented adequately, perhaps due to lack of concern or awareness. Managers may also choose to ignore or 'override' controls, taking the view that the controls do not apply to them.

- **The cost of implementing and operating controls** should always be considered: the benefits from the control should be sufficient to justify the cost.

### SECTION SUMMARY

In reviewing the effectiveness of the system of internal control, the AC can use reports from management and the external auditor's comments on internal control weaknesses. The AC may also rely extensively on investigations by internal auditors.

### 7 Internal audit

#### SECTION INTRODUCTION

The **Code of Corporate Governance 2012** principle 13 states that companies should have an internal audit function, which is independent of the activities it audits. Internal audit can assist the AC in its evaluation of the effectiveness of the internal control system.

#### 7.1 The function of internal audit

Organisations may have an internal audit function or department. Internal auditors are more common in large organisations than in smaller ones, because risks increase with the size, complexity and geographical spread of an organisation's activities, which increases the need for monitoring of controls. In addition, larger organisations are better placed to afford a discrete internal audit function as they spread the cost over a larger base.

The main role of internal audit is to act as an **independent appraisal function**.
(a) Internal audit is defined as: 'A function of an entity that performs assurance and consulting activities designed to evaluate and improve the effectiveness of the entity's governance, risk management and internal control processes' (SSA 610: Using the Work of Internal Audit).

(b) 'Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organisation's operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes' (The Institute of Internal Auditors Singapore).

(c) Internal audit is 'an independent appraisal activity established within an [entity] as a service to it. It is a control which functions by examining and evaluating the adequacy and effectiveness of other controls' (CIMA Official Terminology).

Internal audit may be described as a check or control over other controls. It is a part of the internal control system, with responsibility for monitoring and review of the rest of the internal control system.

Internal auditors carry out investigations into aspects of risk and control, as directed by the AC, the risk committee or management.

In carrying out its investigations, the internal auditors perform one or more of the functions of monitoring and evaluation.

- **Monitoring** is the task of checking whether procedures and processes are being performed properly and whether controls are properly applied.

- **Evaluation**, to assess whether the controls provide sufficient benefits and value, or whether they are either insufficient or excessive. The internal auditor may recommend additional controls or a reduction in the amount of checks and controls.

### 7.2 Internal audit and the Code of Corporate Governance

The Code of Corporate Governance 2012 principle 13 states that a company should establish an internal audit function that is 'adequately resourced and independent of the activities it audits.'

To protect the independence of the internal audit function, the main line of reporting for the Head of Internal Audit should be to the AC Chairman. However, the AC is not an executive body and the Head of Internal Audit should therefore also report administratively to the CEO.

The internal audit function may be performed by any of the following:

(a) An in-house internal audit section
(b) An external accounting firm or corporation to which the internal audit function is outsourced
(c) A major shareholder, holding company or other controlling corporation that has internal audit staff

In order to **protect the independence of the internal audit function** and to ensure that its activities are not restricted by the company's management, the Code includes the following guideline:

(a) The Head of Internal Audit is required to report primarily to the AC Chairman instead of to the CEO or the CFO (Guideline 13.1).

(b) The AC should approve the appointment of the Head of Internal Audit or the termination of his or her employment. This means that the Head of Internal Audit is not dependent on the goodwill of operational managers (the CEO or CFO) for job security.

(c) The AC should also approve the remuneration (compensation) of the Head of Internal Audit.

(d) The internal audit function should have unrestricted access to all the company's documents, records, properties and personnel, including access to the AC.

(e) The internal audit function should be staffed with individuals with relevant qualifications and experience (Guideline 13.3).
At least annually, the AC should review the adequacy and effectiveness of the internal audit function. This review function is the responsibility of the Non-Executive Directors of the AC, and not any executive directors.

However although the internal audit function assists by evaluating the adequacy and effectiveness of control systems and procedures, the Board of Directors remains responsible for the effectiveness of the internal control system.

7.3 Internal audit and internal controls

‘The objective of internal auditing is to advise members of the organisation on the effective discharge of their responsibilities. To this end internal auditing furnishes them with analyses, appraisals, recommendations, counsel and information concerning the activities reviewed’ (Institute of Internal Auditors).

The purpose of an internal audit function is to carry out an independent evaluation and report on its findings. The primary line of reporting is to the AC Chairman, but the internal audit section also undertakes investigations for management. Internal auditors are responsible for making independent checks into the adequacy of systems and controls. The nature of internal audit work could be any of the following.

- **Reviewing the internal control system.** Internal auditors have traditionally undertaken independent investigations into financial controls within an organisation, to establish whether suitable financial controls exist, are applied properly and are effective.
- **Carrying out special investigations** into particular aspects of operations, such as a specific process or procedure, in order to check the effectiveness of operational controls.
- **Carrying out investigations into the adequacy of IT controls** within particular IT systems.
- **Reviewing compliance** with particular laws or regulations and the effectiveness of compliance controls in the organisation.
- **VFM audits.** A Value for Money (VFM) audit investigates an operation or activity to establish whether it is economical, efficient and effective. (Economy, efficiency and effectiveness are the ‘3Es’ of VFM.)
- **Risk assessment.** Internal auditors may be asked to investigate aspects of the risk management system, and the adequacy of arrangements for identifying, assessing and controlling significant risks to the organisation, particularly from external sources.

7.4 Internal audit process

You should have some understanding of how the internal auditors may approach their work.

**Reporting lines**

The Head of Internal Audit should report primarily to the AC Chairman and administratively to the CEO. However a company may also provide for the Head of Internal Audit to have direct access to the Chairman of the Board of Directors, if appropriate.

**Access to records and information**

The internal auditors should have unrestricted access to all records, documents, files, computer software, property and individuals in the company.

**Deciding the risk areas for investigation**

The internal auditors cannot check everything. They have to decide on a programme of audits each year. One approach is to agree on a five-year plan of internal audits, to ensure systematic coverage of all the group's operations within this period.

An annual programme of audits should be decided, on the basis of the five-year plan, giving priority to the most significant risk areas (risk-based approach).
The internal auditors should carry out audits of financial and operational activities, compliance with regulations and IT audits, based on the annual plan. There may also be additional ‘ad hoc’ investigations at the request of the AC or management, if a need for these arises.

**Analysis and assessment of procedures and controls**

The internal auditors should use audit procedures to examine data, transactions, documents and processes, analyse trend data and test IT controls. Such audit procedures should include computer assisted audit techniques (CAATS) or data analytics, which enable either a large sample of transactions or even the full population to be examined, as opposed to limited samples used in traditional audit tests.

**Reporting and communication**

The internal auditors should report to the AC, but provide management with a copy of the report and recommendations.

There should be regular reviews of follow-up action by management to strengthen or replace controls where weaknesses have been discovered.

### 7.5 Investigation of internal controls

The internal auditors may be asked to check the soundness of internal controls. In assessing the effectiveness of controls, the following factors should be considered.

- Whether the controls are manual or automated. The risk of human error is much less when controls are automated; however, controls within an IT system are exposed to IT risks.
- Whether controls are discretionary or non-discretionary. Non-discretionary controls are checks and procedures that must be carried out. With discretionary controls (such as some management controls or supervisory controls) an individual can choose whether or not to apply the control. The internal auditor may wish to consider whether discretionary controls are applied sufficiently often or thoroughly.
- Whether the control can be easily avoided, because the activity can be carried out in a different way where similar controls do not apply.
- Whether the controls are effective in achieving their purpose. The internal auditor needs to understand the purpose of each control, and what the control is intended to achieve. The auditor must then ask whether the control is successful at achieving its intended objective. Are the controls extensive enough or carried out frequently enough? Are they applied rigorously?

Reports by internal auditors can provide assurance that internal controls are sound and effective, or might recommend changes and improvements where weaknesses are uncovered.

**Example**

A well-known story about the effectiveness of the internal auditor is the role of Cynthia Cooper, vice president of internal audit at US telecommunications company WorldCom, who in 2001/2002 uncovered serious fraud in the company.

Although Ms Cooper was responsible for operational audits (the audit of operational controls), she secretly began investigations into irregularities in financial accounting after an unusual transaction had been brought to her attention. The company’s Chief Financial Officer had taken direct responsibility for a reserve account of $400 million without explaining his reasons. Ms Cooper reported her concerns to the AC, which ordered the CFO to reverse his action. The CFO ordered Ms Cooper to stop her investigations and warned her about the consequences of continuing.

She ignored the order and the threat, and continued her investigation in secret. She came across an entry in the accounting records for capital expenditure of $2 billion, but there was no supporting documentary evidence to indicate the purchase and existence of any assets. She then found that the finance department was regularly reporting operating expenses as capital expenditure, in order to reduce expenditure and increase current profits.
She discovered more irregularities in accounting for takeovers. When WorldCom acquired another company, it included estimated future operating costs of the acquired company as part of the purchase price, and then immediately wrote down the value of the assets acquired. In this way, the company was able to record future operating costs of the acquired company as costs arising on acquisition, instead of having to record them as costs in future years.

Ms Cooper reported her concerns to the AC, and the company’s CFO was dismissed. Both the Chairman and CEO were later jailed and in July 2002 WorldCom filed for bankruptcy.

This may be an extreme example of the role of the internal auditor, but it demonstrates key issues.

- The internal auditors must be independent from line management, in this case the CFO.
- Internal auditors should not begin with an assumption that the internal controls are effective: it is their responsibility to find out. They must have an enquiring mind, and should not accept superficial answers to questions.

7.6 Planning an internal audit

Internal audit work may be a review of the preparation of financial statements or financial reports, or it may be to check an element of the internal control system in a department or section of the organisation.

Internal audit work involves:

- Establishing the objectives for an aspect of operations
- Establishing the existing procedures that are in place for achieving those objectives
- Evaluating the risks that may prevent the achievement of the objective, and how management monitors the risk
- Establishing the controls that are in place to deal with the risks
- Considering information that is provided relating to risks and the incidence of risk events
- Checking whether the operations function as intended, with risks kept suitably under control: this involves assessing the procedures and the adequacy of controls (the design of controls and their application in practice), the quality of the information that is provided and the number and nature of control failures that have occurred

Internal audit work involves gathering evidence from various sources, and making an assessment of this evidence.

The following table gives suggestions for an approach to internal audit work.

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<tr>
<th>Establish the purpose of the investigation</th>
<th>What is the purpose of the audit? What are we trying to establish, check or verify?</th>
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<td>What is supposed to happen?</td>
<td>What are the established procedures that are being reviewed? What are the current rules or procedures that should be followed by operational staff?</td>
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<td>What are the risks that have been identified? What could go wrong?</td>
<td>Is there a system for identifying and monitoring the risks? Who is responsible for managing the risk – who ‘owns’ the risk?</td>
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<tr>
<td>What controls are in place to deal with the risks?</td>
<td>For example what are the controls for preventing errors, or detecting errors when they happen?</td>
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<td>What information is available to enable the appropriate person to identify a risk event/an error?</td>
<td>Is this information sufficient? Is it reliable and timely?</td>
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</table>
Without carrying out any checks, do the existing controls seem adequate for managing the risk? | Check the adequacy of the design of the controls. Speak with operational managers if the design of controls seem inadequate for their intended purpose.

Is there evidence to show that existing procedures are followed properly and controls are effectively applied? | Obtain evidence, through checking samples of documentation or through interviews and observation.

How many control failures have occurred in the past 12 months? | Why did they happen? How many repeat errors or control failures have there been? What has been the consequence?

How did management deal with any errors or risk incidents? | Was information about the incident communicated to management? How quickly was the information communicated? How effective was management's response?

What are the costs of controls? | Do the costs appear to justify the benefits? Have the risks been assessed for impact and probability of occurrence?

What is the most appropriate opinion? | Consider the purpose of the operation that is subject to audit. What is its purpose or objectives? Does the evidence suggest that this purpose is being achieved successfully, and that threats to the non-achievement of objectives are sufficiently under control? Report to the Audit Committee accordingly.

7.7 Outsourcing internal audit

Although the Code of Corporate Governance states that a company should establish an adequately-resourced internal audit function, it does not specify how the function should be resourced. A company can choose between establishing its own in-house internal audit function, or using external service providers (typically a form of accountants) to provide internal audit services.

There are problems associated with setting up an internal audit department. These are:

- Cost of recruiting staff
- Difficulty of recruiting staff of sufficient skill and qualification for the company's preference or need
- The fact that management are not auditing specialists and therefore might struggle to direct the new department in their duties
- The time frame between setting up the department and seeing the results of having the department
- The fact that the work required may not be enough to justify engaging full-time staff, particularly in smaller entities
- The fact that a variety of skills and seniority levels are required, but only one member of full-time staff can be justified

7.7.1 Advantages

The advantage of outsourcing internal audit is that outsourcing can overcome all these problems:

- Staff need not be recruited, as the service provider has good quality staff.
- The service provider has specialist skill and can assess what management require them to do. As they are external to the operation, this will not cause operational problems.
Outsourcing can provide an immediate internal audit function without the long-drawn out process of interviewing and hiring.

The service contract can be for the appropriate time scale (a two week project, a month, etc).

Because the time scale is flexible, a team of staff can be provided if required.

The service provider could also provide less than a team, but, for example, could provide one member of staff on a full-time basis for a short period, as a secondment.

The company is able to tap into more advanced audit tools such as data analytics tools, which would otherwise be expensive to acquire and maintain, as well as to train in-house internal auditors to use such tools effectively.

A key advantage of outsourcing internal audit is that outsourcing can be used on a short-term basis to:

- Provide immediate services
- Lay the basis of a permanent function, by setting policies and functions
- Prepare the directors for the implications of having an internal audit function
- Assist the directors in recruiting the permanent function

### 7.7.2 Disadvantages

However, the fact that internal audit services are typically provided by external auditors can raise problems as well, particularly with issues of independence. A conflict of interest will inevitably arise if the same audit firm is both an element of management's internal control system and also relies on that system for the external audit. For this reason the International Ethics Standards Board for Accountants (IESBA) Code of Conduct states that 'a firm's personnel shall not assume a management responsibility when providing internal audit services to an audit client.'

As external parties that only visit the company periodically, the outsourced internal auditors may not have a good understanding of the corporate and risk culture which are important in their control assessment. They also may not be able to respond quickly to ad hoc or last minute requests.

Management may not be comfortable sharing proprietary information and key strategic or risk issues with outsiders, particularly if the service provider has a client in the same industry.

Another major disadvantage of outsourcing the internal audit function to an external auditor is that the cost might be high enough to make the directors choose not to have an internal audit function at all.

### Question 16.3

What responsibilities should be given to a company's internal auditors and who should decide the tasks and investigations that the internal auditors should perform?

### SECTION SUMMARY

This section has described, in general terms, the functions of internal auditors. A function of internal auditors is to assess the effectiveness of internal controls and the internal control system.
8 Review of the adequacy and effectiveness of the internal audit function

SECTION INTRODUCTION

A requirement of the Code of Corporate Governance 2012 (guideline 13.5) is that the AC should review, at least annually, the adequacy and effectiveness of the internal audit function.

The internal audit function is an internal control mechanism that reviews the effectiveness of other parts of the internal control system. There should also be a review of the effectiveness of the internal audit function as an internal control mechanism.

The AC is required by the Code of Corporate Governance 2012 to review, at least annually, the adequacy and effectiveness of the internal audit function.

A review of the adequacy of the internal audit function should consider issues such as:

- Are the internal auditors carrying out sufficient work, or should they be doing more? Are there any areas of operations where the internal auditors do not seem to carry out audit work?
- Is the internal audit function sufficiently resourced? Does it have enough people and a large enough budget to carry out its tasks? Does the internal audit team contain individuals with the technical knowledge and experience to perform their tasks competently?
- Where the internal audit function is outsourced to a firm of external auditors, are communications between the AC and the internal auditors adequate?
- Have the internal auditors done their job well, or are there weaknesses in the way they perform their work? Are they sufficiently independent?
- Do the internal auditors complete their projects or tasks within an appropriate length of time?
- Does the internal audit function provide value for money in what it does?
- What recommendations have the internal auditors made in the past year for improving the effectiveness of the internal control system? Have these recommendations been accepted and implemented by management?
- Does the work of the internal audit function help the AC (and so the Board) to assess the effectiveness of the system of internal control?

8.1 Assessment of adequacy of internal audit

Assessment of the adequacy of the internal audit function should include an assessment of the size of the internal audit function or the budget for outsourced internal audit work. Where a company has its own internal audit function, the AC should consider the number of internal auditors and the resources they are given for their work. The size of the internal audit section or budget (where external auditors are used) will depend on factors such as:

- The scale, diversity and complexity of the company’s activities
- Changes that have occurred in systems or in organisation structures and management structures
- Changes in key risks since the previous annual review
- Weaknesses and failures that have been discovered in internal control in the past and the recent incidence of control failures
The International Professional Practice Framework of The Institute of Internal Auditors Inc also suggests that an external quality assessment of the internal audit function be performed at least once in every five years by qualified independent assessors.

SECTION SUMMARY

The AC's review of the internal audit function should consider whether internal audit is resourced appropriately, and also whether it is achieving its purpose and objectives.

9 Board Risk Committee

SECTION INTRODUCTION

This chapter has been concerned primarily with external audit, internal audit, internal controls and the annual review of the effectiveness of internal controls. The Board is also required to review the effectiveness of the risk management system. A Board Risk Committee may be established to take on some of this responsibility.

The Code of Corporate Governance 2012 states that the Board may establish a separate Board Risk Committee to assist with the task of overseeing the company's risk management system and policies. The AC is responsible for reviewing the effectiveness of the internal control and financial reporting systems, whereas a Risk Committee would be responsible for reviewing the effectiveness of business risk management. It is essential, where a Risk Committee of the Board is established, to specify the exact terms of reference for the Committee and to ensure that these do not overlap the terms of reference of the AC. There should also be good lines of communication between the two committees: this may be achieved by appointing the company secretary as secretary to both committees, or to have one or more directors acting as members of both committees.

- A Risk Committee of the Board does not have executive responsibilities. Its role is to monitor risk management and make reports and recommendations to the Board.
- The Board Risk Committee should not be confused with the risk management committee, which is an executive committee, probably with the CEO as Chairman. The risk management committee would report on business risk management issues to the Board Risk Committee.
- A Risk Committee of the Board may be beneficial in a company which operates in a complex business where a detailed knowledge of technical risks may be required in order to assess risk management practices. The obvious example is a large bank.

There are no specific guidelines about the composition of the Risk Committee. The 'Risk Governance Guidance for Listed Boards' published by MAS states that: 'Where the Board decides to set up a separate Board Risk Committee to assist in its oversight of risk management, the following should be considered:

- Independence of the Committee from Management; and
- Diversity of background and skill sets of Committee members.

The Nominating Committee should balance expertise versus objectivity in determining the composition of the Board Risk Committee. Specialists who are non-Board members could also be invited to support the Board Risk Committee.'

The MAS Guidelines also state: 'To help reduce some of the ambiguity that may arise, the Board may wish to consider common membership among the separate committees that are responsible for the oversight of different risks, or have the separate committees hold joint meetings at least once a year.'
The Committee may co-opt individuals from time to time who have experience in risk management issues but are not directors of the company.

9.1 Functions of the Board Risk Committee

The MAS Risk Governance Guidance suggests that the duties of a Board Risk committee may be as follows:

- Advise the Board on the company's overall risk tolerance and strategy.
- Oversee and advise the Board on the current risk exposures and future risk strategy of the company.
- In relation to risk assessment: (a) keep under review the company's overall risk assessment processes that inform the Board's decision making; (b) review regularly and approve the parameters used in these measures and the methodology adopted; and (c) set a process for the accurate and timely monitoring of large exposures and certain risk types of critical importance.
- Review the company's capability to identify and manage new risk types.
- Before a decision to proceed is taken by the Board, advise the Board on proposed strategic transactions, focussing in particular on risk aspects and implications for the risk tolerance of the company.
- Review reports on any material breaches of risk limits and the adequacy of proposed action. Keep under review the effectiveness of the company's internal controls and risk management systems.
- Review and approve the statements to be included in the annual report concerning the effectiveness of the company's internal control and risk management systems.
- Review the company's procedures for detecting fraud, including the whistleblowing policy (if any). The committee shall ensure that these arrangements allow proportionate and independent investigation of such matters and appropriate follow up action.
- Monitor the independence of risk management functions throughout the organisation.
- Review promptly all relevant risk reports on the company, and review and monitor Management's responsiveness to the findings.

The Committee should also undertake periodic environmental scans to gauge any possible impact on the risk profile of the company.

For more information on this topic, see Risk Governance Guidance for Listed Boards published by MAS. Sample terms of reference for a Risk Committee are given in Appendix B of this document.

SECTION SUMMARY

The Board Risk Committee may provide advice to the Board on matters such as risk appetite and risk tolerance, and report to the Board on strategic and financial risks. The AC is responsible, however, for advising the Board on internal control and financial reporting systems.
## Quick Quiz

1. What are the main responsibilities of the Audit Committee (AC)?
2. What are the main sources of information for the AC that enables them to review the effectiveness of the internal control system?
3. What are the main elements of a review by internal auditors of the system of internal controls?
4. What should an effective system of internal control achieve?
5. What are the guidelines in the *Code of Corporate Governance* 2012 relating to the composition of the AC?
6. Why are a company's internal controls important for the external auditors?
7. What are the requirements in the *Code of Corporate Governance* 2012 with respect to the Board reporting to shareholders on the effectiveness of internal control?
Answers to Quick Quiz

1. Review of financial statements and the external audit
   - Liaison with external auditors
   - Review of system of internal control
   - Review of effectiveness of internal audit

2. Reports from management
   - Reports from the internal auditors
   - Report on any internal control weaknesses from the external auditors

3. Reviewing the design of control systems
   - Monitoring the operation of internal control systems and detailed testing
   - Recommending cost-effective improvements

4. Facilitate effective and efficient operations by enabling it to mitigate significant operational risks
   - Help ensure the quality of internal and external reporting
   - Help ensure compliance with applicable laws and regulations
   - Help ensure the integrity of IT systems.

5. The AC should consist of at least three Non-Executive Directors and the majority of these (including the AC Chairman) should be independent?
   - No executive directors on the Committee
   - AC members should be suitably qualified to carry out their committee responsibilities.
   - At least two AC members, including the AC Chairman, should have recent and relevant accounting or related financial management experience.

6. The external auditors reach their audit opinion by relying on the effectiveness of internal controls. Audit work includes testing the effectiveness of financial reporting controls.

7. The Code requires that the Board should comment in the annual report on the adequacy and effectiveness of the internal controls, including financial, operational, compliance and information technology controls, and risk management systems. This commentary should include information that will enable stakeholders to make an informed assessment of the company's internal control and risk management systems.
   - The Board should also comment in the annual report on whether it has received assurances from the CEO and the CFO.
Answers to Questions

16.1

Audit committee’s role in internal control

Under corporate governance guidelines audit committees are responsible for creating a climate of discipline and control. To do this, they have to obtain assurance that internal control is working effectively and providing an adequate response to the risks faced.

Importance of management review

A management review will provide the audit committee with evidence of whether control systems are effectively managing the most significant risks. It also gives the audit committee an indication of the scope and quality of management’s monitoring of risk and internal control. A review should also provide confirmation to the audit committee that any required improvements in control systems have been made.

Other sources of evidence

Management’s review of internal control is only one source of evidence that the audit committee should use to gain assurance. The committee should also receive reports from staff undertaking important and high-risk activities such as property investment, and control functions such as human resources or internal audit. Feedback from external sources such as external audit or regulatory visits will also provide information.

16.2

As part of a system of corporate governance, the external auditors are required to make a statement in the annual reports as to whether the financial statements give a true and fair view of the state of affairs of the company as at the date of the statement of financial position and of its financial performance for the period covered by the statements. This is intended to give investors and other stakeholders a level of assurance that the company is being managed appropriately, and that the financial statements have been properly prepared.

One of the functions of the Audit Committee should be to maintain an appropriate relationship with the auditors, which means that the views of the auditors should be heard by the committee consisting entirely of non-executive and majority independent directors. The AC should also establish formal arrangements for considering how they should apply the principles for financial reporting and internal control, and the requirement to liaise with the external auditors means that the opinions of the auditors on financial reporting and internal controls will be fed into this process. Another function of the Audit Committee should be to keep under review the independence and objectivity of the external auditors.

16.3

The primary line of reporting for the Head of Internal Audit is to the Chairman of the Audit Committee (AC). The AC is responsible for reviewing the effectiveness of the system of internal audit; it is therefore appropriate for the AC to decide the annual programme of investigations by the internal auditors into different elements of the internal control system.

However, there should be agreement between the AC and management on appropriate areas for investigation, and management may ask the internal auditors to carry out checks into areas of operations where they are concerned about control weaknesses.
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Present Value Table

Present value of 1 ie \((1 + r)^n\)

Where 
- \(r\) = discount rate
- \(n\) = number of periods until payment

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</table>
Annuity Table

Present value of an annuity of 1 is
\[
\frac{1 - (1 + r)^{-n}}{r}
\]

Where
- \( r \) = discount rate
- \( n \) = number of periods

Discount rate \((r)\)

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</table>
Discount factors: PV of $1:

\[ DF = \frac{1}{(1 + r)^n} \]

where

- \( r \) = the cost of capital
- \( n \) = the time period (year)

When cash flows occur at an even rate throughout the year, use mid-year discount factors: \( n = 0.5 \) for Year 1, \( n = 1.5 \) for Year 2, and so on.

**Present value of an annuity**

\[ AF = \frac{1 - (1 + r)^{-n}}{r} \]

or

\[ AF = \frac{1 - 1/(1 + r)^n}{r} \]

**Present value of an annual cash flow in perpetuity**

\[ PV = \frac{A}{r} \]

where

- \( A \) = the annual cash flow
- \( r \) = the cost of capital

**Economic value added**

\[ EVA = NOPAT - (\text{Capital employed} \times \text{Cost of capital}) \]

**Dividend valuation model for shares**

\[ MV = \frac{d}{k_e} \]

where

- \( MV \) = the current market price of the share
- \( d \) = annual dividend (the same every year).
- \( k_e \) = cost of equity.

**Dividend growth valuation model**

\[ MV = \frac{d_0 \times (1 + g)}{(k_e - g)} \]

where

- \( g \) = annual growth in dividends

This formula (the Gordon Growth model) is also used to calculate the terminal value of a business at the end of a project discounting period. When use to calculate a terminal value for a business:

\[ MV = \frac{\text{FCF}_n (1 + g)}{(k_e - g)} \]

where

- \( \text{FCF}_n \) is the free cash flow in the final year of the project
- \( g \) = expected annual growth rate in free cash flow in future years (in perpetuity)
This gives a terminal value as at Year \( n \), and this should be further discounted to a Year 0 present value.

**Capital asset pricing model**

\[
ks = R_{rf} + \beta_s (R_m - R_{rf})
\]

where

- \( k_s \) = cost of equity for a company's share
- \( R_{rf} \) = risk-free rate of return
- \( R_m \) = market rate of return
- \( \beta_s \) = beta value for the company's shares

**Weighted average cost of capital**

\[
WACC = k_e \frac{V_E}{V_E + V_D} + k_d (1 - t) \frac{V_D}{V_E + V_D}
\]

where

- \( k_e \) = the cost of equity
- \( k_d \) = the pre-tax cost of debt
- \( V_E \) = the current market value of the company's equity shares
- \( V_D \) = the current market value of the company's debt capital
- \( t \) = the rate of taxation

**Modigliani-Miller formulae**

**Value of similar geared and ungeared companies**

\[
V_g = V_u + Dt
\]

where

- \( V_g \) = value of debt plus equity in a geared company
- \( V_u \) = value of equity in an equivalent ungeared company
- \( D \) = market value of the debt capital in the geared company
- \( t \) = rate of taxation

\( Dt \) is therefore the 'tax shield' on the company's debt capital

**Cost of equity**

\[
k_{eg} = k_{eu} + (k_{eu} - k_d) \frac{V_d}{V_e} (1 - t)
\]

where

- \( k_{eg} \) = cost of equity in a geared company
- \( k_{eu} \) = cost of equity in an identical but ungeared company
- \( V_d, V_e \) = market values of debt and equity respectively
- \( k_d \) = cost of debt pre-tax

**Adjusted cost of capital**

\[
k_{adj} = k_{eu}(1 - tL)
\]

where

- \( k_{adj} \) = the weighted average cost of capital in a geared company
- \( k_{eu} \) = the cost of equity in an ungeared company
- \( L \) = gearing ratio (or leverage ratio), measured as the market values of debt/(debt + equity)
Hamada formula for relationship between asset beta and equity beta

Where it is assumed that company debt is risk-free and has a beta = 0:

\[ \beta_u = \beta_g \times \frac{V_E}{V_E + V_D (1 - t)} \]

where

- \( \beta_u \) = beta factor of an ungeared company: also called the asset beta \( \beta_a \)
- \( \beta_g \) = beta factor of equity in a geared company: the geared beta: also called the equity beta \( \beta_e \)
- \( V_D \) = market value of the debt capital in the geared company
- \( V_E \) = market value of the equity capital in the geared company

**Purchasing Power Parity**

Future exchange rate \( A$/B$ \) = Current exchange rate \( A$/B$ \) \times \( \frac{(1 + \text{country A inflation rate})}{(1 + \text{country B inflation rate})} \)

Where A relates to the variable currency and B to the base currency

**Interest rate parity**

Future spot rate \( A$/B$ \) = Current spot rate \( A$/B$ \) \times \( \frac{(1 + \text{country A interest rate})}{(1 + \text{country B interest rate})} \)
ABBREVIATIONS APPENDIX
### Abbreviations

<table>
<thead>
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<th>Abbreviations</th>
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<td>$\beta_a$</td>
<td>Asset Beta, or Ungeared Beta ($\beta_u$)</td>
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<td>$\beta_e$</td>
<td>Equity Beta, or Geared Beta ($\beta_g$)</td>
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<td>Audit Committee</td>
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<td>Annual General Meeting</td>
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<td>CAPM</td>
<td>Capital Asset Pricing Model</td>
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<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CFO</td>
<td>Chief Financial Officer</td>
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<td>CRO</td>
<td>Chief Risk Officer</td>
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<td>COSO</td>
<td>Committee of the Sponsoring Organizations of the Treadway Commission</td>
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<td>DCF</td>
<td>Discounted Cash Flow</td>
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<td>DLOM</td>
<td>Discount for Lack of Marketability</td>
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<td>EBITDA</td>
<td>Earnings Before Interest, Taxation, Depreciation and Amortisation</td>
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<td>EVA®</td>
<td>Economic Value Added</td>
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<td>EPS</td>
<td>Earnings Per Share</td>
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<td>Enterprise Risk Management</td>
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<td>Future Maintainable Earnings</td>
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<td>FV</td>
<td>Future Value. Also Fair Value</td>
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<td>Internal Audit</td>
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<td>Internal Rate of Return</td>
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<td>IFRS</td>
<td>International Financial Reporting Standard</td>
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<td>INED</td>
<td>Independent Non-Executive Director</td>
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<td>MAS</td>
<td>Monetary Authority of Singapore</td>
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<td>MEEM</td>
<td>Multi-Period Earnings Method</td>
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<td>Modigliani and Miller</td>
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<td>PBIT</td>
<td>Profit Before Interest and Taxation</td>
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<td>Price/Earnings Ratio</td>
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<td>PESTEL</td>
<td>Political, Economic, Socio-cultural, Technological, Environmental and Legal Factors in the Business Environment</td>
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<td>Small and Medium-sized Enterprises</td>
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<td>Special Purpose Vehicle</td>
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<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities, Threats</td>
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<td>TER</td>
<td>Theoretical Ex-Rights Price</td>
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<td>WACC</td>
<td>Weighted Average Cost of Capital</td>
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ADDITIONAL REFERENCES AND DIRECT RESOURCES
We set out below a list of additional resources which you may find useful while studying this Module.

**General**

You may find it useful to obtain links to Singapore newspapers and news media. These are available from the Singapore newspaper and news media guide at www.abyznewslinks.com/singa.htm

A link to *The Straits Times* web site is www.straitstimes.com/singapore

You can also download the current edition of the SID Directors’ Bulletin from the web site of the Singapore Institute of Directors, at www.sid.org.sg

**Chapter 1**

**WEBSITE**


[Accessed: February 2018]

Project Sigma.2006. Description of the Five Capitals model.

[www.projectsigma.co.uk/Guidelines/Principles/Capitals/The5Capitals.asp](http://www.projectsigma.co.uk/Guidelines/Principles/Capitals/The5Capitals.asp)

[Accessed: February 2018]


[Accessed: February 2018]

**FURTHER READING**


**Chapter 3**

**FURTHER READING**

Drucker, Peter F *The Information Executives Truly Need*: Harvard Business Review, Volume 73, Number 1, pp 54–62

For information on Economic Value Added, see Stern Stewart & Co web site at [www.sternstewart.com](http://www.sternstewart.com)
Chapter 5

FURTHER READING


Chapter 7

WEBSITE

Deloitte Summary of IAS38 *Intangible Assets*.

www.iasplus.com/en/standards/ias/ias38

[Accessed: February 2018]

For a summary on the changes to the Singapore Code on Take-overs and Mergers, as an alternative to reading the Code itself, see:

www.drewnapier.com/DrewASPX/media/assets/Legal%20Updates/01-Mar-16-Singapore-take-over-code-revised.pdf

[Accessed: February 2018]

Chapter 8

WEBSITE

Asian Roundtable information available at:

www.oecd.org/daf/ca/oecd-asianroundtableoncorporategovernance.htm

[Accessed: February 2018]

G20/OECD Principles of Corporate Governance (2015)

www.oecd.org/corporate/principles-corporate-governance.htm

[Accessed: February 2018]
FURTHER READING


Chapter 9

FURTHER READING


Chapter 11

WEBSITE


Chapter 12

WEBSITE
[Accessed: February 2018]

FURTHER READING
International Federation of Accountants (IFAC) Enterprise Governance: Getting the balance right, available at www.ifac.org/publications-resources/enterprise-governance-getting-balance-right


Risk Governance Guidance for Listed Companies, published by MAS, available at:

Chapter 14

WEBSITE
Monetary Authority of Singapore (MAS). 2012.
[Accessed: February 2018]

FURTHER READING
Singapore Fraud Survey 2014, available at:
Chapter 15

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[Accessed: February 2018]

Chapter 16

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Institute of Internal Auditors Singapore. 2014. www.iiainsg.org/professional-guidance
[Accessed: February 2018]

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