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Welcome to the Chartered Institute for Securities & Investment's Wealth Management Practice (Certificate in International Advanced Wealth Management) study material.

This workbook has been written to prepare you for the Chartered Institute for Securities & Investment's Wealth Management Practice (Certificate in International Advanced Wealth Management) examination.

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It is estimated that this manual will require approximately 140 hours of study time.

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Chapter One

Securities Analysis

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This syllabus area will provide approximately 12 of the 80 examination questions

In this first chapter, we look at the factors that wealth managers should consider when analysing companies, their financial statements and the corporate actions that they undertake.

1. Corporate Governance

Corporate governance is the system by which companies are directed and controlled. It refers specifically to the set of rules, controls, policies and resolutions to dictate corporate behaviour. It identifies who has power and accountability and who makes decisions. The purpose of corporate governance is to ensure that businesses have appropriate decision-making processes and controls in place so that the interests of all stakeholders are balanced.

The OECD (Organisation for Economic Co-operation and Development) Principles of Corporate Governance describe corporate governance as follows:

> *'Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined.'*

Poor governance is widely recognised as a contributing factor to the failure of firms, particularly in the aftermath of corporate scandals such as Enron, WorldCom and the global financial crisis, and has therefore come under considerable regulatory scrutiny by regulators and governments internationally.

1.1 The Need for Corporate Governance

A company is a legal entity formed to conduct business or other activities in the name of its members. The incorporation of a company is the process by which a new or existing business registers itself as a limited company. Due to it being incorporated, it has a legal personality distinct from those of its members.

This separation of control and 'ownership' of a company is what makes corporate governance necessary. In economics, it is known as the principal-agent problem. The interests of those who have effective control over a firm can differ from those who supply external finance.

In the absence of the protections that good governance provides, shareholders are exposed to the risk of opportunistic behaviour by managers or controlling shareholders – shareholders tend to want strong returns through an enhanced share price and dividends, whereas managers may have objectives such as power, bonuses, prestige and status. Without meaningful protection, those who control a company can misappropriate benefits, often at the expense of the long-term performance and value of the company. Banks and other providers of finance can be at risk and, as a result, the wider financial system is vulnerable.

Corporate governance mechanisms are, therefore, needed to ensure that companies are run in the long-term interests of their shareholders and other stakeholders.

1.2 Principles of Corporate Governance

Learning Objective

1.1.1 Understand the principles of good corporate governance, the potential impact on the integrity and efficiency of a business, and the financial and reputational risks posed by poor governance: fairness; accountability; responsibility; transparency

1.2.1 Purpose of Corporate Governance

Good corporate governance helps to build an environment of trust, transparency, and accountability necessary for fostering long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies.

Boards of directors are responsible for the governance of their companies, including setting the company's strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship.

Corporate governance is, therefore, about what the board of a company does and how it sets the values of the company, and can be distinguished from the day-to-day operational management of the company by its full-time executives.

It extends to how the company behaves in respect of its employees, its customers, the communities in which it operates and the environment.

1.2.2 Principles of Corporate Governance

The global importance of corporate governance has led to international organisations developing principles of corporate governance that can set the agenda in different countries.

OECD Principles of Corporate Governance

The OECD Principles of Corporate Governance were first published in 1999 & last revised in 2023, and have since become the international benchmark used by policymakers, companies, investors and other stakeholders.

The Principles are presented in six different chapters, with each main principle being followed by sub-principles which are then supplemented so that users can understand their rationale and apply them appropriately. The Principles are not prescriptive. Instead, they seek to identify objectives and suggest various means for achieving them.

OECD 6 Principles of Corporate Governance

1. Ensuring the basis for an effective corporate governance framework.
2. The rights and equitable treatment of shareholders and key ownership functions.
3. Institutional investors, stock markets, and other intermediaries.
4. Disclosure and transparency.
5. The responsibilities of the board.
6. Sustainability and resilience.

There is no single model of good corporate governance, but some common elements underlie good corporate governance. The Principles build on these common elements and are formulated to embrace the different models that exist.

The Principles focus on publicly traded companies, but they are also a useful tool for other companies to improve how they operate. The Principles are not intended to replace the sound business judgement of the managers of companies and instead recognise that what works in one company may not be applicable elsewhere. They do, however, recognise the interests of employees and other stakeholders and their important role in contributing to the long-term success and performance of the company. Other factors relevant to a company's decision-making processes, such as environmental, anti-corruption or ethical concerns, are also considered.

UN Global Compact Principles

As companies increasingly expand their activities beyond national boundaries, more complicated issues arise about how best to manage the diversity of interests this creates. In recognition of the business as a driving force in globalisation, the UN introduced a set of ten Global Compact Principles to help ensure advances in the commercial sector also benefit societies.

UN Global Compact Principles	
Human Rights	• **Principle 1**: businesses should support and respect the protection of internationally proclaimed human rights, and • **Principle 2**: make sure that they are not complicit in human rights abuses.
Labour Standards	• **Principle 3**: businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining • **Principle 4**: the elimination of all forms of forced and compulsory labour • **Principle 5**: the effective abolition of child labour, and • **Principle 6**: the elimination of discrimination in respect of employment and occupation.

UN Global Compact Principles	
Environment	• **Principle 7**: businesses should support a precautionary approach to environmental challenges • **Principle 8**: undertake initiatives to promote greater environmental responsibility, and • **Principle 9**: encourage the development and diffusion of environmentally-friendly technologies.
Anti-Corruption	• **Principle 10:** businesses should work against corruption in all its forms, including extortion and bribery.

In the same spirit as the OECD Principles, these global principles seek to expand the responsibilities of business beyond financial concerns.

Bank for International Settlements (BIS) Governance Principles for Banks

The Bank for International Settlements (BIS) has issued a set of Governance Principles to provide a framework within which banks and supervisors should operate in order to achieve robust and transparent risk management and decision-making and, in doing so, promote public confidence and uphold the safety and soundness of the banking system. This emphasises that effective corporate governance is critical to the proper functioning of the banking sector and the economy as a whole.

These Principles build on the OECD Principles and although they are specific to the banking sector, they add to the weight of evidence emphasising the need for corporate governance standards. Banking supervisors have a keen interest in sound corporate governance as it is an essential element in the safe and sound functioning of a bank and may adversely affect the bank's risk profile if not operating effectively.

While these Principles are specific to the banking sector, it should be clear that when analysing an existing or potential investment, a wealth manager would be well advised to follow suit and take into account corporate governance practices in a company when considering the suitability of an investment.

1.2.3 Risks Posed by Poor Corporate Governance

Weaknesses in corporate governance practices and stakeholder management expose a company and its stakeholders to several risks. When the set of rules and processes which form the governance mechanism of a firm are ineffective or fail, it can have disastrous consequences for a business. Several large organisations, such as Enron, were severely impacted due to corporate governance failures either in terms of bankruptcy or, in the case of Volkswagen, negative publicity, fines and court claims.

Enron

A scandal involving the US energy company Enron Corporation broke out in 2001 and eventually led to its bankruptcy which was the largest in American history at that time. The primary reason for its bankruptcy was attributed to an audit failure. It transpired that the board of directors had misled regulators, employed dubious accounting practices and used special purpose vehicles to hide its debt and toxic assets.

As a result of the scandal, the US government introduced new regulations known as the Sarbanes-Oxley Act. The rules are designed to expand the accuracy of financial reporting for public companies and increase the penalties for destroying, altering, or fabricating records in federal investigations or for attempting to defraud shareholders. They also increased the accountability of audit firms to remain unbiased and independent of their clients.

Some of the issues faced by firms which eventually lead to corporate governance failures include the following:

- Ineffective governance mechanisms and lack of independent board and audit committees.
- Inadequately qualified board members who are unable to adequately analyse and challenge key business transactions and strategies.
- Management that deliberately undermine governance structures, circumvent internal controls and misrepresent issues to the board in favour of decisions that benefit them.
- Weaknesses in control systems that may lead to one set of stakeholders benefitting unfairly at the expense of others.
- Exposure to legal, regulatory and reputational risks is heightened with the risk of lawsuits that could cause financial and reputational damage.
- At the extreme, a company's financial position may become damaged, exposing it to the risk of being unable to meet its debt obligations and to bankruptcy risk if its creditors take legal action against it.

1.2.4 Benefits of Good Corporate Governance

Corporate governance is seen as having an important role to play in achieving broader economic objectives with respect to investor confidence, capital formation and allocation and societal objectives.

The quality of corporate governance affects the cost for corporations to access **capital** for growth and the confidence with which those that provide capital – directly or indirectly – can participate and share in their value creation on fair and equitable terms. Good corporate governance will reassure shareholders and other stakeholders that their rights are protected and make it possible for corporations to decrease the cost of capital and to facilitate their access to the capital market.

Good corporate governance can bring a range of benefits to an economy, the company itself and to investors.

Benefits of Corporate Governance	
Benefits for the economy	• Helps a country to attract long-term capital for investment to promote **economic growth**. • Ensures an organisation is managed in a manner that fits the best interests of all stakeholders. • Research shows that international investors are prepared to pay a **premium** to invest in company **shares** in a country that has good corporate governance compared to ones with a comparable financial record in countries with poorer standards. • Underpins the good functioning of capital markets.
Benefits for a company	• Enables access to financial markets and attracts long-term capital. • Strong corporate governance maintains investors' confidence, as a result of which, companies can raise capital efficiently and effectively. • Business does not operate in a vacuum as public outcry over corporate failures and wrongdoings exemplify. Good corporate governance can help companies avoid getting bad publicity and avoid costly crises. • Research shows people want to work for well-run companies and so aids recruitment and retention.
Benefits for shareholders	• Good corporate governance can ensure that the interests of shareholders are protected. • Enables a company to adopt a culture based on sound business ethics. • Focuses attention on proper incentives for the board to pursue objectives that are in the interests of both the company and its shareholders. • More informed on decisions affecting fundamental issues and the strategies adopted by the company.

1.2.5 Pillars of Corporate Governance

The OECD Principles lie in its four pillars of corporate governance which are fairness, accountability, responsibility and transparency.

Fairness	• The fairness of markets is closely linked to investor protection and, in particular, to prevention of improper trading practices, which leads to confidence in the markets. • The corporate governance framework should protect and facilitate the exercise of shareholders' rights. Basic shareholder rights should include the right to: ◦ secure methods of ownership registration ◦ convey or transfer shares ◦ obtain relevant and material information on the corporation on a timely and regular basis ◦ participate and vote in general shareholder meetings ◦ elect and remove members of the board, and ◦ share in the profits of the corporation. • The corporate governance framework should protect shareholder rights and ensure the equitable treatment of all stakeholders, including minority and foreign shareholders. All shareholders should be able to obtain effective redress for violations of their rights.
Accountability	• Ensuring management is effectively overseen (and, where necessary, replaced) by appointing an independent and competent governing body. • The corporate governance framework should provide for the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and shareholders.
Responsibility	• Ensuring the corporation fulfils its proper role in society. • An effective corporate governance system must strive to channel the self-interests of managers, directors and the advisers, upon whom they rely, into alignment with corporate, shareholder and public interests.
Transparency	• Full disclosure of financial and non-financial information. • The corporate governance framework should ensure that timely and accurate disclosure is made on all matters regarding the company, including its financial situation, performance, ownership and governance structure.

Corporate governance can take many forms, and in the next sections we will look at how corporate governance developed and at some of the main approaches to corporate governance.

1.3 Developments in Corporate Governance Practice

Learning Objective

1.1.3 Understand the main developments in relation to corporate governance practice

There is no definitive historical study of corporate governance, but its need can be traced to the separation of ownership and control that is at the heart of a company structure.

The relationship between shareholders and often self-serving managers drove the need for systems of independent monitoring and control. This separation of ownership and control has required mechanisms to be constructed to try and prevent it being abused. While the need for such mechanisms is now generally accepted, corporate governance came into vogue in the 1970s in the US. By the end of the 1990s, corporate governance was well entrenched.

1.3.1 Development of Corporate Governance in the US

In the decades after the Second World War, the US experienced a prolonged economic boom. A feature of this was that companies were manager-led, and stockholders were indifferent to everything about the company other than the **dividend** and the stock price.

The Securities and Exchange Commission (SEC) brought corporate governance into the reform agenda in the mid-1970s by treating managerial accountability as part of its regulatory remit. Falsification of company financial statements and widespread corporate bribery brought demands for boards to exercise greater control and accountability and a change to New York Stock Exchange (NYSE) listing rules requiring audit committees composed of independent directors. Ultimately, however, the SEC refrained from introducing major reforms and a political shift to the right stalled development of corporate governance standards.

Debate on the need for reform, however, did not stop with American corporate law academics arguing that without robust shareholder protection legislation, shareholders were at risk of being ruthlessly exploited by management. This academic argument floundered and, instead, the increasing role of institutional shareholders led to demands for improvements. Eventually, relaxation of rules that created obstacles to shareholder intervention in corporate affairs followed and sharpened the debate on corporate governance. Corporate governance became increasingly associated with the preservation and promotion of shareholder value.

1.3.2 Development of Corporate Governance in Developed Markets

While the debate on corporate governance began in the US, it was soon on the agenda elsewhere.

Corporate governance came to the fore in the UK in the late 1980s following a number of corporate failures, with suggestions that a lack of accountability on the part of top executives had contributed to the problems that arose. This led to the formulation of the Committee on the Financial Aspects of Corporate Governance, whose final report was published in December 1992 (known as the Cadbury Report). A key aspect was a series of provisions which a listed company either had a choice to comply with, or explain why they had failed to do so.

Comply or Explain

The UK introduced the concept of 'comply or explain' in 1992, which was hailed as a pragmatic tool that could improve corporate governance without the need for inflexible rules. As the name suggests, it required companies to comply with a code of corporate governance or explain why it considered this was not appropriate. This flexibility recognised there is no 'one size fits all' approach to effective corporate governance, but that a code can challenge companies to improve their standards.

The **London Stock Exchange (LSE)** played an important role in establishing the immediate credibility of the code by adding a requirement to its Listing Rules that all companies had either to comply or explain.

By the 1990s, the corporate governance movement that had begun in the US and spread to the UK had become established in continental Europe and Japan. Liberalisation of capital markets also helped to put corporate governance on the agenda.

The process would soon repeat itself elsewhere, leading to the development of the Principles of Corporate Governance by the OECD in 1999.

1.3.3 Corporate Governance in Developing Markets

The introduction of corporate governance in developing markets followed a different route, recognising that the models adopted in developed countries required adaptation to be relevant and appropriate and that no two countries are the same.

South Africa was an early adopter of the need for corporate governance. The first set of corporate governance guidelines (the King Report on Corporate Governance) was issued in 1994 and later codes developed an 'apply or explain' approach. This provided boards with the freedom to apply the recommendations differently, or apply another practice if they consider that to be in the best interest of the organisation, but they must explain this departure from the recommendations.

South Africa's approach was regarded by many as ahead of its time in adopting an integrated and inclusive approach to the business life of companies, embracing stakeholders other than shareholders. The philosophy behind the code revolves around leadership, sustainability and corporate citizenship. Responsible leaders direct company strategies and operations with a view to achieving sustainable economic, social and environmental performance.

1.3.4 Corporate Governance in Today's Markets

Corporate governance is now well established in most markets. For example, the European Corporate Governance Institute's database of corporate governance codes, generally accepted as the most comprehensive and up-to-date record, has a directory of over 460 international codes.

The attention paid to corporate governance factors has increased at pace since the development of the Principles of Corporate Governance and attention is probably now focused on embedding the approach into day-to-day business and refining best practice.

With good governance and strong management interlinked to the continued health of the capital markets, the relationship between companies and their shareholders has never been more important. Given an ever-increasing range of global investment options, companies must focus on building long-term relationships with investors, founded on trust and regular communications. In doing so, companies will maximise the full benefits of being publicly listed; corporate governance is central to this process.

1.4 Approaches to Corporate Governance

Learning Objective

1.1.2 Understand some of the key approaches to corporate governance best practice, and their relative risks and merits for companies and their shareholders: statutory/legislative; shareholder theory; corporate social responsibility; board diversity; enlightened shareholder value (ESV)

There are various approaches to corporate governance which have developed throughout the world. In this section, we will consider the characteristics of some of the types that are encountered and look at the governance practices that can be put in place by a company.

1.4.1 Rules- or Principles-Based Approaches

One characteristic of corporate governance systems is that they may be either rules-based or principles-based.

- A rules-based approach instils the code into law with appropriate penalties for transgression.
- A principles-based approach requires the company to adhere to the spirit rather than the letter of the code. The company must either implement the code or explain why it has not through reports to the appropriate body and its shareholders.

The US model is enshrined into law by virtue of the Sarbanes-Oxley Act (SOX) and is, therefore, a rules-based approach. The UK model of 'comply or explain' is a principles-based one, however all companies with a stock market listing are required to follow it.

Rules-Based Approach

A rules-based approach to corporate governance is where companies are required by law (or by some other form of compulsory regulation) to comply with established principles of good corporate governance. The rules might apply only to some types of company, such as stock market listed companies. For the companies to which they apply, the rules must be followed and few exceptions to the rules are allowed.

Advantages	Disadvantages
Companies do not have the choice of ignoring the rules without transgressing the law.	The same rules might not be suitable for every company, because the circumstances of each company are different.
All companies are required to meet the same minimum standards of corporate governance which creates a standardised approach.	A system of corporate governance is too rigid if the same rules are applied to all companies.
There is clarity in terms of what the company must do and a level playing field from the organisation's perspective.	It can encourage a 'box-ticking' approach and may encourage exploiting loopholes.
Investor confidence in the stock market may be improved if all stock market companies are required to comply with recognised corporate governance rules.	There are some aspects of corporate governance that cannot be regulated easily, such as negotiating the remuneration of directors, deciding the most suitable range of skills and experience for the board of directors, and assessing the performance of the board and its directors (the latter is usually measured through the board evaluation processes, although these are not fully independent in nature).

Principles-Based Approach

A principles-based approach is based on the view that a single set of rules is not appropriate for every company. A corporate governance code sets out principles that the company should follow and guidance on their implementation. It is up to the company how to implement the principles and requires the company to report to shareholders how it has complied with the requirements of the code or to explain why it could not do so in its annual report. This will leave shareholders to draw their own conclusions regarding the governance of the company.

Advantages	Disadvantages
Companies can determine the most appropriate method of implementation.	There is room for misunderstanding of the requirements, and enforcement is harder.
Minimal compliance is likely not to be tolerated and lack of confidence in practices can lead to an adverse stock market reaction or dissatisfaction from its customer base.	There is a lack of clarity for the organisation on how best to implement.
Standards can rise over time as practices develop and as the level of expectation rises. There is scope for continuous improvement at the company level.	It requires active shareholder involvement in reviewing the approach and pressuring the company to change if investors consider the implementation deficient.
It can cope with rapid changes in the business environment.	

Choice of Approach

The difference between countries that take a rules-based approach and those that take a principles-based approach to corporate governance is mainly one of emphasis. Some countries have more rules than others and rely more on the enforcement of rules to achieve the required standard of governance.

The decision as to which approach to use for a country can be governed by many factors:

- Government structure and policies and its legal system.
- The culture and history of the country.
- The dominant ownership structure found in companies such as family or multiple shareholders.
- The state of the economy and levels of capital inflow or investment coming into the country.
- The global economic and political climate.

1.4.2 Shareholder and Stakeholder Models

Numerous theories have been proposed for corporate governance best practice and the two well-known versions are the shareholder and stakeholder models.

Shareholder Model

The shareholder model of corporate governance is based on the shareholder as the most important stakeholder, with the goal of maximising wealth for investors and owners.

If the goal of a business is to make a profit, and if the firm's owners and investors have the most to lose if a firm goes into liquidation, then businesses must create value to survive and provide returns for owners. In 1970, the famous economist Milton Friedman argued that a business manager's responsibility is to maximise profit for shareholders while conforming to the laws and ethical customs of society.

The shareholder model is widely seen in many different countries, such as the US, UK, Canada and Australia. Some of its recognisable characteristics are offering stock options to senior management to align their personal objectives with those of the corporation, and publishing quarterly reports to enable the company to keep track of **earnings** to see if management is pursuing the best interests of the company. Advocates of the shareholder model believe that having this one goal helps a business become more competitive, helps managers prioritise their responsibilities and helps create transparency in allowing investors to monitor the company's performance.

There is, of course, a downside to this model. Due to the pressures to meet performance expectations, management often take a short-term perspective and maximise value in the short term rather than in the long term. Critics claim that it can lead to companies ignoring ethical conduct in favour of increasing market share and profitability (further information on greenwashing can be found in Chapter 7).

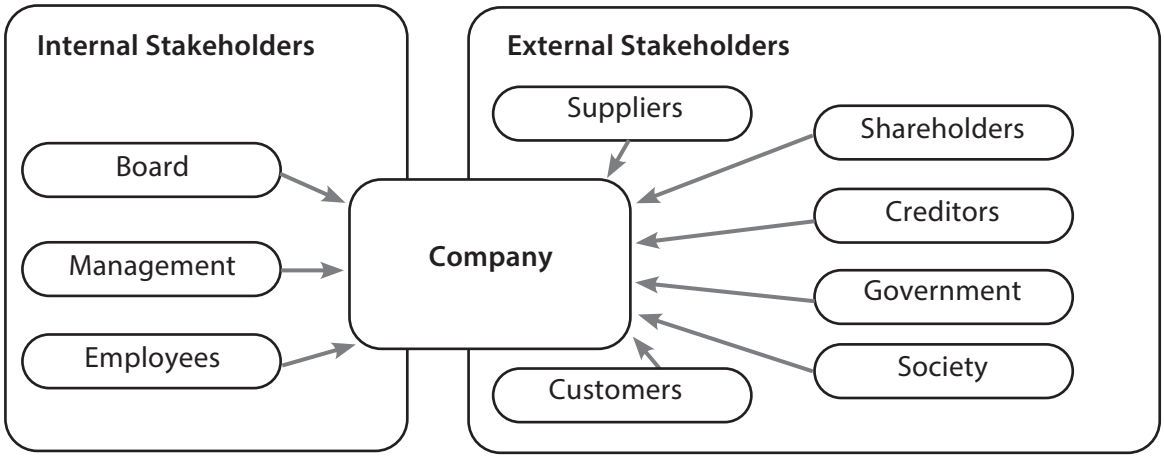
Stakeholder Model

An alternative to the shareholder model is the stakeholder model of corporate governance. This states that a company owes a responsibility to a wider group of stakeholders, other than just shareholders including, for example, consumers, employees, communities and regulatory authorities.

It was originally proposed by Edward Freeman, a US professor of business, in the book, *Strategic Management: A Stakeholder Approach*. It identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups.

The stakeholder theory suggests that companies should take into account a wider group of stakeholders in their governance process. Stakeholders are generally divided into internal and external stakeholders. The diagram which follows describes some of the various stakeholders involved in a business; it inevitably misses out some groups as the potential range of participants is large.

Stakeholders



The stakeholder theory is a feature of countries such as Germany and Japan. In these countries, stakeholder claims are typically taken into account in top management decisions. In Germany, for example, employees are influential stakeholders who, depending on the size of the company, also sit on the board and are closely involved in determining corporate objectives and governance.

The advantage of this model is in how the company reconciles its objectives and relationships with non-shareholder groups or objectives. Proponents argue that it allows directors to take far-sighted decisions rather than being constrained by short-term profit maximisation. For example, this could include taking active decisions about environmental concerns rather than passively following regulatory requirements.

The stakeholder approach has many advantages that can lead to a more cooperative and productive relationship between the stakeholders and the company, which may benefit the long-term development of the company. There is, of course, a downside to this model. Critics argue that the problem with this idea is that different stakeholders have different needs, some of which may conflict, and that pursuing multiple goals increases complacency and muddles the organisation's identity.

1.4.3 Corporate Social Responsibility (CSR)

The stakeholder approach was recognised as an important element of corporate social responsibility.

The emergence of corporate social responsibility (CSR) as an alternative model has encouraged many companies to take the interests of all stakeholders into account. This approach encourages companies to develop a business model that integrates social and environmental concerns into their business operations to create a positive impact on the stakeholders and the environment.

For example, during their decision-making processes, companies might consider their impact on the environment instead of making choices based solely on the interests of shareholders. The general public is considered an external stakeholder under this model. When a company's operations could increase environmental pollution or take away a green space within a community, for example, the public at large is affected. These decisions may increase shareholder profits, but stakeholders could be impacted negatively. Therefore, CSR encourages corporations to make choices that protect social welfare, often using methods that reach far beyond legal and regulatory requirements.

CSR has increasingly become more important to companies and their shareholders as the need to manage, monitor and plan for climate change has increased in focus – investors are now taking a keener interest in CSR approaches and measures, alongside traditional profit measures.

CSR is gradually becoming integrated into standard corporate governance practices. It focuses on ethical practices in businesses and the responsiveness of the organisation to its stakeholders and the environment in which it operates.

1.4.4 Diversity

The growth in the size, complexity and nature of businesses has led to a demand for people with the right skills, knowledge and experience to perform effectively at the board level. It is acknowledged that it is crucial for boards to have the right balance of skills, knowledge and experience as well as gender, racial, and other forms of diversity, as well as across the wider organisation.

Diversity goes beyond just gender and race, and includes personal attributes, including intellect, judgement, courage, honesty and tact, as well as the ability to listen and forge relationships and develop trust. This ensures that a board is not closely comprised of like-minded individuals but has independence of thought and avoids a scenario referred to as groupthink.

In many countries, there is an increasing demand from investors and governments for the board to articulate its policy on diversity and its progress against achieving their objectives. Investors are including organisational diversify as part of their investment criteria alongside traditional measures.

1.4.5 Enlightened Shareholder Value

Corporate governance models continue to develop and address some of the shortcomings of earlier models. One perspective is that it seeks to bridge the gap between shareholder and stakeholder theories.

Enlightened shareholder value states that:

> *'corporations should pursue shareholder wealth with a long-run orientation that seeks sustainable growth and profits based on responsible attention to the full range of relevant stakeholder interests'.*

Essentially, it focuses on generating shareholder value while having regard to the long-term external impacts of its wealth generation.

The importance of the concept was recognised in the UK, for example, when it was adopted into law in the Companies Act 2006. The move represents an important development in corporate governance and a clear move away from the shareholder theory. In today's environment of the increasingly critical media attention given to corporate activities that do not sit well with the views of the general public, the narrowly focused shareholder model looks less suited to today's environment.

1.4.6 Corporate Governance Mechanisms

The mechanisms by which stakeholders exercise their rights to ensure effective corporate governance vary from country to country.

They include a series of laws, legal duties, regulations and codes, all of which are designed to define the roles and responsibilities of directors, provide oversight of their activities and then ensure that there is appropriate disclosure of the activities undertaken to shareholders and other stakeholders.

The types of mechanisms available can be looked at under two headings: mechanisms that are in place internally within a company and external assessment of the effectiveness of those controls.

Internal mechanisms	• An independent board of directors which monitors the activities of the executive officers of the company in the exercise of their duties. • Separation of responsibilities between the chairman and chief executive. • Appointment of independent non-executive directors (iNEDs). • The establishment of specialist committees, such as audit and risk committees, to undertake independent assessment and oversight of risks and financial reporting.
External mechanisms	• Legal duties imposed on directors. • Listing rules of stock exchanges that have to be adhered to. • Reporting of financial performance. • Independent audit of financial and other statements.

Board of Directors

The board of directors is at the centre of this system of control mechanisms.

Role of the Board of Directors

- Overriding responsibility is to ensure the long-term viability of the firm and to provide oversight of management.
- In many countries, they are responsible for approving the company's strategy and major decisions and for hiring, monitoring and replacing management.
- In some countries, the board has fiduciary responsibility for ensuring compliance with laws and regulations, including accounting and financial reporting requirements.
- For a going concern (that is, for a company to be assumed to be able to meet its financial obligations when they become due), the board is answerable to shareholders and, in some systems, to employees and creditors.

In pursuing this key purpose, a board of directors faces a uniquely demanding set of responsibilities and challenges. It also faces a range of objectives that can sometimes seem contradictory. The board:

- must simultaneously be entrepreneurial and drive the business forward while keeping it under prudent control
- is required to be sufficiently knowledgeable about the workings of the company to be answerable for its actions, yet able to stand back from the day-to-day management of the company and retain an objective, longer-term view
- must be sensitive to the pressures of short-term issues and yet take account of broader, long-term trends
- must be knowledgeable about 'local' issues and yet be aware of potential or actual wider competitive influences, and
- is expected to be focused on the commercial needs of its business while acting responsibly towards its employees, business partners and society as a whole.

Audit Committee and Corporate Governance

The audit committee operates on behalf of the board of directors in overseeing and monitoring the organisation's financial reporting, disclosure, internal and external audit, internal control, regulatory compliance and risk management activities.

While all directors have a duty to act in the interests of the company, the audit committee has a particular role, acting independently from executive management to ensure that the interests of shareholders are properly protected in relation to financial reporting and internal control.

Shareholders' Rights

Shareholders, as providers of the risk capital of the company, need to have certain rights in order to hold the board of directors to account and to protect their investment.

While these may vary from country to country, the International Organization of Securities Commissions (IOSCO) found a basic set of rights is found in most markets, including:

- secure method of ownership registration
- transferability of shares
- obtain timely, relevant information on the company
- participate and vote in general shareholders meetings
- elect members of the board
- share in the profits of the company, and
- participate in, and be informed on, decisions concerning fundamental corporate changes.

Shareholders and Governance

Shareholders need to be aware of the governance issues that can arise and how they are addressed.

Publicly-traded companies	• The governance challenge is for outside shareholders to control the performance of managers. • Since managers dominate, the key governance mechanism is the rules for selecting directors, who need to have enough independence to ensure that they will properly monitor managers' performance.
Companies with a controlling shareholder	• At the other end of the spectrum from widely-held publicly-traded companies are companies with a controlling shareholder and minority shareholders. • Here managers may act at the dictate of the controlling shareholder. • The governance challenge is how minority shareholders can prevent the controlling shareholder from extracting undue benefits.

1.4.7 Corporate Governance Codes

While there is no single model of corporate governance, research emphasises that good corporate governance can best be achieved through a combination of regulation and voluntary action. Evidence increasingly suggests that those companies that have voluntarily embraced improving their standards enhance their reputation and the value of the company.

Over the last few decades, most countries have taken steps forward in development of good corporate governance including revisions to their companies' legislation and the issue of codes of corporate governance for listed companies.

Institutional investors have a particular role to play in ensuring the good governance of a company not just because of the size of their shareholding, but also their ability to effectively challenge management on strategy and operations. This has led to the development of Stewardship Codes.

The Financial Reporting Council in the UK defines stewardship as:

> *'the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society'.*

Institutional investors are expected to take up their role of stewardship as the representatives of their clients or investors and actively engage with the board and management to discuss performance and corporate governance as well as voting at annual general meetings (AGMs).

At the heart of most codes is the concept that the board should ensure that management develops corporate citizenship policies for use by the company and that the company is and is perceived to be a responsible corporate citizen. A good corporate citizen is one that has comprehensive policies and practices in place throughout the business that enables it to make decisions and conduct its operations ethically, meet legal requirements and show consideration for society, communities and the environment.

The corporate governance issues facing boards today illustrate the inherently complex nature of corporate governance and have moved on from generic standard practices to more nuanced decisions about board composition and how to forge relationships with shareholders and stakeholders that meaningfully enhance the company's credibility.

A company needs to find a balance between economic, social and environmental value. This triple bottom line approach enhances the potential of a company to create economic value. By looking beyond immediate financial gain, the company can ensure that its reputation, one of its most significant assets, is protected.

1.5 Developments in Environmental, Social, and Corporate Governance (ESG) and Climate Change Investing

Learning Objective

1.1.4 Understand the main trends in relation to environmental, social, and corporate governance (ESG) and climate change investing

Environmental, social, and governance (ESG) refers to consideration by investors and, in turn, invested companies in matters beyond that the traditional profit maximisation approach by corporations advocated by Milton Friedman (see section 1.4.2) in the Shareholder Model.

Environment	Environmental challenges, such as climate change, pollution, biodiversity, environmental management, waste, the use of natural resources – including water, forestry, and mining.
Social	Issues that relate to people, such as human rights, labour standards, child labour, equal opportunities, and food supply.
Governance	Issues relating to company management, such as board structure, executive remuneration, bonuses, avoidance of bribery and corruption.

Investors are increasingly placing pressure on leaders (both government, as well as organisations) to demonstrate that they understand and oversee ESG issues – from climate change, to human rights to social unrest, and are making significant steps to manage these. There is pressure on boards to shore up their ESG credentials is set to grow as investors demand better accountability from the top and heightened focus on sustainability, and to demonstrate credibility and not a tick box approach.

Chapter 7, section 1.5 contains more information from the viewpoint of investors.

Current Trends in ESG

Source: Dana Mitra Lingkungan; S&P Global 2025 Trend Report

Companies and countries will navigate a challenging new policy landscape and continued geopolitical uncertainty as they implement sustainability, climate and energy transition strategies.	For companies, robust corporate governance practices will be more important than ever as businesses navigate complex regulatory environments, increased litigation risk, international standards and acceptable norms to avoid sanctions and reputational damage.
Energy transition will be defined by a struggle between policy and market forces.	Clean technology continues to make significant inroads in the global energy system.
Worsening climate hazards alongside more stringent disclosure standards will shine a light on adaptation needs.	Companies in particular face tightening disclosure standards globally and challenges associated with assessing and reporting the potential impacts from physical climate risks. Integrating these considerations into financial risk assessments can help companies protect assets, navigate regulations and build resilience to climate hazards.
The climate finance gap is huge, but a focus on practical solutions coupled with increasing ambition levels could unlock meaningful private capital mobilisation.	We see renewed pressure on stakeholders to find ways to address the widening climate finance funding gap.
Companies will increasingly incorporate nature into their sustainability strategies as they recognize the links between biodiversity loss and climate change.	Expect companies, policymakers and other stakeholders to take more concrete measures to tackle nature in tandem with climate.
Amid growing geopolitical, regulatory and climate challenges, companies will face increased pressure on sustainable supply chain management practices.	Supply chains for many companies — particularly food and beverage producers — are also growing increasingly vulnerable to disruption from physical climate hazards including water stress.
Tension over what constitutes a just and equitable energy transition — and who pays for it — will continue to play out on the global stage in 2025.	Discussions about a just transition, and more broadly, how climate change and biodiversity loss impact people, also have implications for the private sector. Social factors such as accessing a qualified workforce, maintaining strong community relationships, and safeguarding supply chain labour rights amid new regulations are material issues in many sectors and will influence whether the ambitions of the transition can be met. As the race to access the raw materials required to power the transition heats up, for instance, maintaining local social and political buy-in will grow increasingly critical.

The need to balance AI's energy use against its utility as a climate tool will grow more urgent.	As AI becomes more integrated across different industries in 2025, the debate around the pros and cons it brings to sustainability will grow more urgent. AI has the potential to radically improve energy efficiency and resource use, and it has become a key tool in emissions and land-use measurement and climate scenario analysis — use cases that show its potential benefits from a sustainability perspective.
Jurisdictions around the world will continue to push for consistent and comparable sustainability reporting, but concerns about heavier reporting burdens for companies may slow adoption.	In 2025, momentum will be strong for global harmonisation in sustainability reporting as an increasing number of jurisdictions adopt sustainability-related disclosure standards.

Source: S&P Global – Key ESG Trends in 2025

2. Financial Statements

All limited liability companies have to prepare financial statements to monitor the health of their business and provide a true and fair view of their financial position.

The directors of a company are legally required to prepare financial statements and make other disclosures within an annual report and accounts.

- Financial statements summarise all transactions entered into by a company during its accounting period.
- These set out the results of the company's activities during its most recent accounting period and its financial position as of the end of the period. An accounting period typically spans a 12-month time frame.
- These statements must be presented at the company's AGM and filed with the appropriate government agency. In the UK, for example, this agency is Companies House.

2.1 Accounting Standards

Learning Objective

1.2.1 Understand how differences in accounting standards, principles and guidelines can impact the reporting of financial information in a company's balance sheet, income statement and notes to the financial statements

Directors must draw up their financial statements in accordance with the accounting standards applicable for the country and type of company concerned. This is important to ensure that the accounts

can be readily understood and evaluated, that they are prepared with the minimum of distortion, and that they can be compared on a like-for-like basis with other similar companies.

Historically, all countries evolved their own generally accepted accounting principles (GAAP) over time, as a means of providing a common standard for the preparation and analysis of financial statements in their own countries. In the US, for example, the national standard is US GAAP.

In more recent times, the International Accounting Standards Board (IASB) has developed International Financial Reporting Standards (IFRS), which have been adopted by an increasingly wide number of countries and markets. This has meant that companies are increasingly preparing their accounts to a common standard.

The principal driver for this is the IOSCO, which represents the interests of **securities** regulatory bodies worldwide. Thus, international public companies (with securities listed in more than one country) find it easier to produce one version of their worldwide accounting information compliant with just one international standard, rather than having to comply with a multitude of differing local standards. IOSCO accepts this point and, in general, IFRS are usually stricter than individual local standards.

IFRS is mandatory for companies with a public listing in Europe. Since 2005, the EU set IFRS as the required financial reporting standard for the financial statements of all European companies whose debt or equity securities trade on a regulated market.

Japan permits different frameworks beyond Japanese GAAP, including IFRS, a modified version of IFRS and US GAAP. The Japanese Financial Accounting Standards Board has been working on convergence of Japanese GAAP with IFRS and although Japanese GAAP is not identical to IFRS, it has been found to be equivalent to IFRS as adopted by the European Union (EU) since 2008. As of end of March 2021, more than 243 of the companies listed on the Tokyo Stock Exchange (accounting for 44% of market capitalisation) had adopted or were in the process of adopting IFRS.

In the US, SEC-registered companies must prepare their accounts under US GAAP, unless they are non-US registered companies. In this case, they can choose between US GAAP, IFRS or (providing that they include a reconciliation to US GAAP) their national GAAP.

Over recent years, the US Financial Accounting Standards Board has been working with the IASB on reducing the differences between US GAAP and IFRS. A number of differences still remain, and some of the more significant of these are as follows:

- GAAP is rules based, whereas IFRS focuses on patterns and is principles based.
- The US GAAP classification of debt as compared to **equity** differs from the IFRS classification.
- Under US GAAP, revaluation of property, plant and equipment is not permitted. Under IFRS, these assets may be revalued, providing that a **fair value** can be reliably measured.
- There are further differences in the approach to the valuation of intangible assets and investment property.
- Under US GAAP, inventory is measured at the lower of cost and market value, with cost taken at either first in, first out (FIFO) or last in, first out (LIFO). Under IFRS, it is measured at the lower of cost and net realisable value, and LIFO is prohibited.

As the standards that a company has to meet in preparing and presenting its annual report and accounts may vary between countries, for the purposes of this workbook we use the framework for financial statements that are set out in IFRS. These standards comprise IFRS and International Accounting Standards (IAS); the standards for the presentation of financial statements, for example, are set out in IAS 1.

2.2 Structure of Financial Statements

Learning Objective

1.2.2 Be able to assess the purpose, structure and relevance of statements of financial position, from the perspectives of corporate management teams and potential investors

1.2.3 Be able to assess the purpose, structure and relevance of statements of profit and loss, from the perspectives of corporate management teams and potential investors

1.2.4 Be able to assess the purpose, structure and relevance of statements of cash flow, from the perspectives of corporate management teams and potential investors

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The annual report and accounts issued by major listed companies can often run to more than 100 pages, but their main contents can be summarised into two main areas – narrative reporting and financial statements. The typical content of each is shown in the following table:

Content of Annual Report and Accounts	
Narrative Reporting	These include: • The chairman's statement, highlighting key issues in the company's development and current position. • Reports by the CEO and other directors, as appropriate. • A strategic report containing a fair review of the company's business, the principal risks and uncertainties facing the company and an analysis of its development and performance during the year. • An audit report, stating that '…*the company's financial statements as presented give a true and fair view of its balance sheet and income statement for the period ended*...[date]' . When the auditors have been unable to provide this clean audit report, their report is said to be qualified, and it must indicate the reasons for this qualification. • A directors' report, including the names of directors, principal activities of the company and dividends paid. • Corporate governance statements.

Content of Annual Report and Accounts	
Financial Statements	The financial statements comprise the following: • **The statement of comprehensive income** (also referred to as the profit and loss account) – this may be shown as one single document, or it may be divided into two parts (the income statement and the statement of comprehensive income). Either way, this is the statement showing the company's total **income** and expenses for the last financial year, and its profit or loss for that year. • **The statement of financial position** (also referred to as the balance sheet) – the statement of the company's assets and **liabilities** as at the end of the financial year. • **The statement of cash flows** – the statement showing the sources and uses of cash during the financial year and the net cash position at the end of that year. • **The statement of changes in equity** – a breakdown of the different elements contributing to changes in the company's equity over the year. • **Notes to the financial statements** – which provide breakdowns of the more complex items, as well as explanations and additional information, such as the company's accounting policies.

2.2.1 Framework for Financial Statements

The format of financial statements and disclosures is based on standards issued by international and local Accounting Standards Boards. The IASB has issued guidance on financial statements in a document known as the '*Framework for the Preparation and Presentation of Financial Statements*'. The framework describes the basic concepts by which financial statements are prepared and it:

- defines the objectives of financial statements
- identifies the qualitative characteristics that make information in financial statements useful, and
- defines the basic elements of financial statements and the concepts for recognising and measuring them.

Objectives of Financial Statements

The management of a business has the primary responsibility for preparing and presenting its financial statements and the objective of these is to provide information about the financial position, performance and changes in financial position of a business that is useful to a wide range of users in making economic decisions.

Objectives of Financial Statements	
Financial Position	• Financial position is affected by the economic resources it controls, its financial structure, its **liquidity** and solvency, and its capacity to adapt to changes in the environment in which it operates. • This information is contained in the balance sheet which is now known as the statement of financial position.

Objectives of Financial Statements	
Performance	• Performance is the ability of an entity to earn a profit on the resources that have been invested in it. • Information about this is provided in the income statement and in a further financial statement, the statement showing changes in equity.
Changes in Financial Position	• This is information about the investing, financing and operating activities that a business has undertaken during the reporting period is contained in the cash flow statement. • This information helps in assessing how well the entity is able to generate cash and cash equivalents, and how it uses those cash flows.
Notes to the Accounts	• Notes and supplementary schedules should be used to: ◦ explain items in the balance sheet and income statement ◦ disclose the risks and uncertainties affecting the business, and ◦ explain any resources and obligations not recognised in the balance sheet.

The framework also sets out the underlying assumptions of financial statements:

- **Accrual basis** – the effects of transactions and other events are recognised when they occur, rather than when cash or its equivalent is received or paid, and they are reported in the financial statements of the periods to which they relate.
- **Going concern** – the financial statements presume that an entity will continue in operation indefinitely or, if that presumption is not valid, disclosure and a different basis of reporting are required.

Accruals

The accruals concept requires revenue and the associated costs to be shown in the period they are earned or incurred, not in the period they are received.

For example, a company has a financial year end of 30 June. It invoices €5,000 for work undertaken in early June, but the invoice is not paid until July; in other words, in the next financial year. The revenue from this work would be accounted for in the current year even though the **money** is not received until the next one.

Qualitative Characteristics of Financial Statements

The framework addresses general-purpose financial statements that a business prepares and presents at least annually to meet the common information needs of a wide range of external users.

The principal classes of users are present and potential investors, employees, lenders, suppliers and other trade creditors, customers, governments and their agencies and the general public. All of these categories of users rely on financial statements to help them in decision-making. As investors are providers of risk capital, then financial statements that meet their needs will also meet most of the general financial information needs of other users.

The framework provides that information should be presented in a way that is readily understandable by users who have a reasonable knowledge of business and economic activities and accounting and who are willing to study the information with reasonable diligence.

The principles that should be followed in the presentation of the financial statements should address:

- the relevance of the information
- the reliability of the information, and
- comparability with earlier periods.

Qualitative Characteristics	
Relevance	• Relevant information enables users to make economic decisions and the financial statements can do that both by helping them evaluate past, present, or future events and by confirming or correcting past evaluations they have made. • To be relevant, information should also be material and timely. Information is material if its omission or mis-statement could influence the economic decisions of users. • To be useful, information must be provided to users within the time period in which it is most likely to bear on their decisions.
Reliability	• Information in financial statements is reliable if it is free from material error and bias and can be depended upon by users to represent events and transactions faithfully. • Financial statements, however, have to use estimates, and the uncertainty surrounding these is dealt with by disclosure and by exercising prudence. • Prudence is the inclusion of a degree of caution in the exercise of the judgements needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities or expenses are not understated.
Comparability	• Users must also be able to compare the financial statements of a business over time so that they can identify trends in its financial position and performance. • They will also want to be able to compare the financial statements of different businesses so disclosure of accounting policies is important for comparability such as when accounting for cost of goods sold, or the rate and method of **depreciation** being used in relation to an asset.

Elements of Financial Statements

Financial statements portray the financial effects of transactions and other events by grouping them into broad classes according to their economic characteristics. These broad classes are termed the elements of financial statements.

The elements directly related to financial position are contained in the statement of financial position and are:

- **assets** – a resource controlled by the business and from which future economic benefits are expected to flow
- **liabilities** – a present obligation of the entity, the **settlement** of which is expected to result in an outflow from the business, and
- **equity** – the residual interest in the assets of the business after deducting all its liabilities.

The elements directly related to performance (as shown in the income statement) are:

- **income** – increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity; it includes both revenue and gains, and it excludes contributions from equity participants, and
- **expenses** – decreases in economic benefits during the accounting period in the form of outflows, depletion of assets or liabilities that result in decreases in equity; it includes losses as well as those expenses that arise in the ordinary course of business, and again, it excludes distributions to equity participants.

The cash flow statement reflects both income statement elements and some changes in balance sheet elements.

Having defined what the content of financial statements should be, the framework defines when they should be recognised in the financial statements, that is, the process of incorporating in the statement of financial position or income statement an item that meets the definition of an element and satisfies the following criteria for recognition:

- It is probable that any future economic benefit associated with the item will flow to or from the business.
- The item's cost or value can be measured with reliability.

Measurement involves assigning monetary amounts at which the elements of the financial statements are to be recognised and reported. The framework acknowledges that a variety of measurement bases are used today to different degrees and in varying combinations in financial statements, including:

- historical cost
- current cost
- net realisable (settlement) value, and
- present value (discounted).

Historical cost is the measurement basis most commonly used today, but it is usually combined with other measurement bases. The framework does not include concepts or principles for selecting which measurement basis should be used for particular elements of financial statements or in particular circumstances. Individual standards and interpretations do provide this guidance.

2.2.2 Auditor's Report

Companies whose accounts are subject to a statutory independent audit must appoint, or reappoint, an auditor at the company's AGM to carry out an independent assessment of the company's accounts prepared by the directors.

Audit Report

The audit report must:

- identify to whom the report is addressed
- identify the financial statements being audited
- contain a section covering the responsibilities of the:
  - **auditor** – to express an opinion
  - **directors** – to prepare the accounts and accept responsibility for their truth, fairness and compliance with company's legislation
- indicate the basis of the auditor's opinion, ie, the adherence to auditing standards, description of the audit process such as audit testing done and consideration of the appropriateness of accounting policies used
- state that the auditor has planned and performed the audit in such a way as to obtain reasonable assurance that the financial statements are free from material error or misstatement, however, arising, and
- contain an audit opinion on the statement of financial position at the period end and the profit or loss and cash flows for the period.

The audit report gives an opinion on whether or not the accounts give a true and fair view of the company's activities and financial position and whether they have been prepared in accordance with the law and mandatory accounting standards. If so, then an unqualified audit report is issued. If not, then the auditor must modify the report.

These modified reports fall into two categories:

- **Limitation of scope of the audit** – where there has been a limitation on the scope of the auditor's work that prevents them from obtaining sufficient evidence to give an unqualified opinion.
- **Adverse opinion** – where the auditor disagrees with an accounting treatment or a view made in the statements, which the directors refuse to amend.

The importance of the qualification also falls into two categories:

- **Material:**
  - Where the auditor has material disagreement with the treatment adopted by the directors or a material uncertainty that limits the scope of the audit opinion. The effect of the disagreement or limit in scope is not so material to require an adverse or disclaimer of opinion.
  - The reader's view of the accounts in specifically stated parts would be altered by this limitation or disagreement.

- **Fundamental:**
  - The limitation or disagreement is so material as to render the whole accounts meaningless.

As a result, there are four possible styles of qualification, each of which will attract a slightly different wording in the auditor's report. The following table shows the form of wording that will be used when the auditor is stating their opinion.

Auditor's Report		
	Limitation of Scope	**Disagreement**
Material	Give a true and fair view except for	Give a true and fair view except for
Fundamental	Unable to express an opinion (disclaimer of opinion)	Do not give a true and fair view (adverse opinion)

In all cases, the auditor will state what they are uncertain about or disagree with.

2.2.3 Group Accounts

Many listed companies have both subsidiaries and investments in other companies. How they are treated for accounting purposes is shown below.

	Group Accounts – Company A	
	Amount of Voting Share Capital Held in Company B by Company A	**Accounting Convention**
Investments	Less than 20% and no significant influence over the company.	• Investment is recognised in company A's statement of financial position as either: ◦ a fixed asset investment at cost, less any impairment to its value, or ◦ a current asset at the lower of cost or net realisable value (NRV); in this instance, NRV is the current market value. • In both cases, any dividends received will be taken to the income statement in arriving at profit on ordinary activities before taxation.
	At least 20% or company A exercises a significant influence over the company.	• Investment is recognised in company A's statement of financial position as part of the combined entity in its statement of financial position and income statement.

	Group Accounts – Company A	
	Amount of Voting Share Capital Held in Company B by Company A	**Accounting Convention**
Associates	Where a company has between a 20% and a 50% shareholding or exercises a significant influence over the management of the other company.	• Associate company is recognised using the equity method of accounting – this means that it must show a percentage of the operating profit in its income statement and a percentage of the value of its assets in its consolidated statement of financial position. • For example, if company A has a 30% shareholding in company B, then the following occur: ◦ 30% of company B's post-acquisition operating profit, interest payable, interest receivable and tax are added to company A's respective income statement items in the consolidated income statement. Any dividends received by company A from company B do not, however, enter the consolidated income statement. Company B's post-acquisition profits are those that arise after company A has taken a stake in company B as an associated company. ◦ 30% of the value of company B's net assets and the value of any purchased goodwill that arose on making this investment in company B will appear in the consolidated statement of financial position.
Subsidiaries	Common presumption is a shareholding of greater than 50% giving company A (known as the **parent company**) the necessary votes to determine the composition of the board and, therefore, control.	• To account for its control, a parent company is required to present group accounts that amalgamate the assets and liabilities of the parent with those of its subsidiary companies. • These accounts are termed 'consolidated accounts', and by amalgamating the assets and liabilities, the shareholders of the parent are clearly able to see all of the resources the group controls, and the liabilities the group owe to others. • The majority of listed companies are parent companies that control one or more subsidiary companies. As a result, listed companies present group accounts to their shareholders. • As stated above, a subsidiary is established when the parent company controls more than 50%. In instances where the parent has greater than 50%, but less than 100%, of the shares of the subsidiary, the remaining shares are owned by persons other than the parent and are known as the minority interests. • The percentage of the net income that is owned by the minority shareholders are shown as a deduction at the foot of the group income statement. A similar adjustment is also made at the base of the group statement of financial position as a separate entry within equity for the minority interests.

2.3 Statement of Financial Position

Learning Objective

1.2.2 Be able to assess the purpose, structure and relevance of statements of financial position, from the perspectives of corporate management teams and potential investors

The statement of financial position provides a snapshot of the company's financial position at a particular date, by showing the value of its assets and the sum of its liabilities at that date. This statement is also referred to as a balance sheet.

A simplified version of the statement of financial position is shown as follows:

XYZ Company ltd Statement of Financial Position For the year ended 31 December 2024 (All amounts are in 000s)			
	Notes	2024	2023
Assets			
Non-Current Assets			
Property, plant and equipment			
Intangible assets			
Investments in associates			
Financial investments			
Total Non-Current Assets			
Current Assets			
Inventories			
Trade and other receivables			
Other financial assets			
Cash and cash equivalents			
Total Current Assets			
Total Assets			

XYZ Company ltd Statement of Financial Position For the year ended 31 December 2024 (All amounts are in 000s)			
Current Liabilities			
Bank overdraft			
Bank loans			
Trade and other payables			
Other financial liabilities			
Tax			
Total Current Liabilities			
Non-Current Liabilities			
Borrowings			
Deferred income			
Financial instruments			
Deferred tax liabilities			
Total Non-Current Liabilities			
Total Liabilities			
Capital and Reserves attributable to equity holders			
Called up share capital			
Share premium account			
Capital reserves			
Revenue reserves			
Revaluation reserve			
Other reserves			
Shareholder's Equity			
Non-controlling interest			
Total Equity			

A set of financial statements will show the results for the company's financial year along with the previous year's figures to provide a comparative figure. Many items will contain a cross reference in the 'Notes' column to the Notes to the Accounts where further details will be provided.

The construction of the financial statement is underpinned by the accounting equation:

Assets = Liabilities + Equity

In other words, the balance sheet 'balances'. Other versions on this equation are:

- Net assets (total assets less liabilities) = Shareholder's funds
- Assets – Liabilities = Share capital + Reserves
- Assets = Liabilities + Share capital + Reserves

You should see from the example above that the statement of financial position has five main sections that we will look at in turn in the following sections:

1. Non-current assets (historically referred to as fixed assets).
2. Current assets.
3. Current liabilities.
4. Non-current liabilities (historically referred to as long-term liabilities).
5. Capital and reserves.

2.3.1 Non-Current Assets

An asset is anything that is owned and controlled by the company and confers the right to future economic benefits. Assets are summarised as either 'non-current assets' or 'current assets'.

Non-current assets are alternatively called 'fixed assets' or 'long-lived assets' and include the items we saw earlier in the statement of financial position.

Non-Current Assets
Property, plant and equipment
Intangible assets
Investments in associates
Financial investments
Total Non-Current Assets

They are those assets used within the business to generate revenue on a continuing basis rather than being purchased for immediate resale. They, therefore, represent capital expenditure made by the company.

Non-current or fixed assets can be summarised as either:

- tangible
- intangible, or
- investments.

Types of Fixed Assets		
Type		
Tangible	• A company's tangible fixed assets are those that have physical substance. • These are physical assets that are used within the business over a number of years with a view to deriving some benefit from their use. • Generally, the accounts will show these in a single category of property, plant and equipment, with a more detailed breakdown in the notes to the accounts. • The value shown for these assets is the original cost or value less any depreciation which is covered below.	• Includes freehold land and buildings, leasehold land and buildings, plant and machinery, motor vehicles, fixtures, and fittings.
Intangible	• Intangible fixed assets are those assets that although without physical substance, can be separately identified and are capable of being realised. • Intangible assets may also be written down in value over time, although the term used is 'amortisation' rather than 'depreciation'.	• One very common kind of intangible asset is goodwill. Goodwill arises when the parent company acquires a subsidiary for a price which is greater than the value of the subsidiary's net tangible assets. The excess price is said to be payable in return for the goodwill in the subsidiary – effectively, for the expectation of future profits and growth. • Other examples include development expenditure, patents, licences and trademarks, publishing rights and titles, and brands.
Investments	• Fixed asset investments are typically long-term investments held in other companies.	• This may include investments in associate companies.

At the point of purchase, a non-current asset appears on the statement of financial position at its original cost. In subsequent years, the asset reduces in value until it has no useful economic life left; as it has no financial value it is then not shown in the statement of financial position any more. Non-current assets are shown in the statement of financial position at net book value (NBV), which is simply the cost

of the asset less the accumulated depreciation to date. Details of the depreciation policy, the original cost and the accumulated depreciation are summarised in the notes to the accounts.

- **Depreciation** – the reduction in value of an asset over its useful economic life.
- **Amortisation** – similar to depreciation, but refers to certain kinds of intangible assets, such as patents or licences. These intangibles are said to be amortised over their useful lives.

Depreciation Methods

The two most common depreciation methods are as follows:

- The **straight-line method** – this is the simpler of the two methods as it simply spreads the depreciable amount equally over the useful economic life of the asset.
- The **reducing balance method** – this produces a depreciation percentage rate which, rather than being applied to the depreciable amount, is instead applied to the book value of the asset. This results in a higher depreciation charge than the straight-line method in the early years of the asset's life but a lower charge in the later years.

The total amount written off over the asset's useful economic life will be the same in both cases.

Assuming a machine was purchased for 24,500 has an estimated useful economic life of six years and an estimated disposal value after six years of 1,000, then depreciation would be calculated as follows:

Straight line depreciation:

This method reduces the book value of the asset by an equal amount each year and is calculated as:

$$\frac{\text{(Cost – Disposal Value)}}{\text{Remaining Useful Economic Life (Years)}} = \frac{(24{,}500 - 1{,}000)}{6} = 3{,}916.67 \text{ pa}$$

The depreciation charge will be the same in years one to six.

Reducing balance depreciation:

This method reduces the book value of the asset by a set percentage each year rather than an equal amount and so results in a higher depreciation charge in the early years of an asset's life, but a charge in later years is calculated as:

$$1 - \sqrt[n]{\frac{\text{Expected Residual Value}}{\text{Original Cost}}} = 1 - \sqrt[6]{\frac{1{,}000}{24{,}500}} = 41.32\%$$

Where ^{n} represents the number of years.

The results can be seen in the following table:

	Straight-line method		Reducing balance method	
Year	Depreciation charge	NBV	Depreciation charge	NBV
1	3,916.67	20,583.33	10,123.40	14,376.60
2	3,916.67	16,666.66	5,940.41	8,436.19
3	3,916.67	12,749.99	3,485.83	4,950.35
4	3,916.67	8,833.32	2,045.48	2,904.87
5	3,916.67	4,916.65	1,200.29	1,704.58
6	3,916.67	998.98	704.33	1,000.25
Total	23,500.02	–	23,499.75	
Note that the minor differences between the numbers resulting from the two methods are due to rounding up the straight-line depreciation charge and rounding down the reducing balance percentage rate.				

Which of the depreciation methods is the more appropriate depends on the type of asset being depreciated and its use in the business. The argument in favour of using the reducing balance method is that, as tangible non-current assets tend to confer the greatest benefits in the earliest years of their use, these should be matched by a higher depreciation charge.

In the accounts, we can see depreciation in two places:

1. In the statement of financial position, where we can see the value of assets reducing in value in consecutive periods.
2. The company's income statement, where the depreciation is shown as an expense.

This treatment reflects the fact that the purchase of assets is one of the company's operating costs, in the same way as wages and marketing expenses. Rather than simply recognise the whole cost in the year that an asset is acquired, it makes more sense to allocate the cost over the whole of the asset's useful economic life, so that in each year we can see the amount of that asset's value that is being depreciated, and also see clearly the full costs that are incurred in generating each year's revenue.

Although depreciation is shown as an expense in the income statement, you should be clear that it is not a cash expense. Cash leaves the company's bank account when the asset is first acquired, not in instalments over the life of the asset. This is relevant when considering a company's cash flow as we will see later.

2.3.2 Current Assets

Current assets are short-term in nature and include all those assets which are used in the company's trading cycle. As we saw in the statement of financial position, the main types of current asset are:

Current Assets
Inventories
Trade and other receivables
Other financial assets
Cash and cash equivalents
Total Current Assets

Net current assets are calculated as current assets less current liabilities.

Current assets are those assets purchased with the intention of resale or conversion into cash, usually within a 12-month period. They are therefore also known as revenue items. Current assets are categorised into the following:

- **Inventory** – goods held available for sale.
- **Trade receivables** – amounts owed to the company, perhaps as a result of selling goods on credit (often referred to as account receivables).
- **Investments** – shares held in the short term with the intention of reselling, eg, short-term speculative investments.
- **Cash** – either held physically or by a financial institution such as a bank or money market fund.

Inventory

Inventory (historically referred to as stock) consists of three items:

- **Raw materials** which have been bought but, as at the balance sheet date, not yet used in producing goods.
- **Work in progress** – products in the process of being manufactured, or services being provided, which are part-finished at the year-end.
- **Finished goods** – products which have been made, but not yet sold as at the year-end.

As raw materials are converted into work in progress and then into finished goods, they are expected to increase in value. However, for IFRS accounting purposes, all inventory must be valued at the lower of cost and net realisable value, so that there is no risk of overstating the value of current assets.

Net Realisable Value (NRV)

NRV is defined as the estimated selling price of each stock item, less any further costs to be incurred in both bringing the stock, work in progress or raw materials into a saleable condition, including any associated selling and marketing costs. Therefore, if for reasons such as obsolescence the NRV of the stock has fallen below cost, the item must be written down to this NRV for statement of financial position purposes.

In such instances, cost can be determined by making an assumption about the way stock flows through the business. Companies can account for their stock on one of three bases:

- **First in first out (FIFO)** – FIFO assumes that the stock first purchased by the business is the first to be sold. Therefore, the value of the closing stock at the end of the accounting period is given by the cost of the most recent stock purchased. This produces a closing stock figure in the statement of financial position that closely resembles the current market value of the stock. It also results in the highest reported profit figure of the three bases in times of rising prices.
- **Last in first out (LIFO)** – LIFO assumes that the most recent stock purchased by the company is the first to be sold. IFRS does not permit the use of LIFO since, in times of rising prices, the statement of financial position value of closing stock will be that of the stock first purchased and will, therefore, not resemble current prices. It also produces the lowest reported profit figure of the three bases.
- **Weighted average cost (AVCO)** – AVCO values closing stock at the weighted average cost of stock purchased throughout the accounting period. This method produces a closing stock figure and a reported profit between that of the FIFO and LIFO methods.

Receivables

Receivables (historically called debtors) represent amounts owing from customers for goods provided or services rendered. When a customer has bought goods, and been supplied with them, but has not paid for them at the year-end, the customer's obligation to pay is recognised in the accounts as a trade receivable. It is a current asset, because the company is entitled to receive this amount within the next year.

The figure shown in the statement of financial position does not usually represent the total amount owing to the company from its customers. Most companies experience some bad debts – when a customer does not pay all, or part, of its bills. In order to be prudent, companies must analyse how far their receivables book is impaired (in that there is the possibility or likelihood of non-payment), and then deduct a provision for this impairment from the total. This is referred to as a provision for bad or doubtful debts. The receivables figure is, therefore, shown net of provisions, but the amount of the provision must be shown in the notes to the accounts.

Other Financial Assets

The statement of financial position may include other assets of a short-term nature, such as assets which are intended to be sold, or short-term financial investments.

Cash and Cash Equivalents

Cash refers to the cash balances in the company's bank account(s) and cash registers at the financial period end. The phrase 'cash or near-cash' or 'cash equivalents' is sometimes used and reflects the fact that, included with cash, there are often other items, such as outstanding money market deposits, banker's drafts and short-term securities which are invested to generate interest income, but can be realised and turned into cash very quickly.

It may be helpful to clarify the relationship between inventory, receivables and cash.

- **Inventory** – raw materials, unfinished goods, and finished goods which are unsold. These will be turned into receivables.
- **Receivables** – finished goods which have been sold but not paid for. These will be sold later for cash.
- **Cash** – received in exchange for finished goods, sold and paid for.

2.3.3 Current Liabilities

Current liabilities represent obligations that the company must settle within one year and, therefore, represent the company's more pressing obligations. As we saw earlier, they include the following:

Current Liabilities
Bank overdraft
Bank loans
Trade and other payables
Other financial liabilities
Tax
Total Current Liabilities

Current liabilities include the amount the company owes to its suppliers, or trade payables, as a result of buying goods and/or services on credit, any bank overdraft, and any other payables such as tax, that are due within 12 months of the statement of financial position. They can be grouped into the following:

- Trade and other payables – these are amounts due to be paid to the company's suppliers or other parties. Typically, when the company buys its raw materials, distribution and administration services, it pays for these on agreed terms of, say, 30 days from the date of invoice. Trade payables represent the total of any invoices received by the company, but not yet paid, at the financial period end.
- Short-term loans or the current portion of long-term debt – this includes any amount that falls due for repayment during the next year. It also includes any overdraft balance at the financial period end.
- Other items such as corporation tax due, an amount due to be paid to the pension fund or other **contract** liabilities. These are amounts when an obligation has arisen, but which are still unpaid at the financial period end.

A proposed dividend is not shown as a liability in the statement of financial position at the year-end, although it will be disclosed elsewhere within the report and accounts. The IASs instead require that proposed dividends are treated as an event arising after the statement of financial position date. Therefore, they are not liabilities until approved by shareholders at a general meeting.

2.3.4 Non-Current Liabilities

Non-current liabilities are obligations falling due beyond one year and include the following:

Non-Current Liabilities
Borrowings
Deferred income
Financial instruments
Deferred tax liabilities
Total Non-Current Liabilities

Non-current liabilities comprise the company's borrowing not repayable within the next 12 months and examples include:

- **Borrowings (debt)** – this includes bank loans, bonds, **debentures** or mortgages due for repayment in more than a year. Where these liabilities decrease yearly in amount as the company makes its scheduled repayments, any portion of the borrowings falling due for repayment in less than 12 months is allocated to current liabilities.
- **Provisions** – this refers to situations when the company anticipates an expense arising in the future, but when the amount and timing of that expense is not yet certain. This could relate to restructuring, bad debts, or some other expense. In this case, the company makes an estimate of the expense and includes it in the accounts as a provision. One example of a provision is deferred tax. This arises when the company has a potential obligation to pay tax in the future as a result of differences between the tax and accounting treatment of the value of assets.
- **Retirement benefit obligations** – when a company has a deficit on its pension scheme (ie, its future liabilities outweigh the value of the assets in the scheme), this is shown in long-term liabilities.

This could include **bond** issues as well as longer-term bank borrowing.

2.3.5 Capital and Reserves

The company's net assets are the total of all its assets, minus all its liabilities. This number is always equal to the value of the equity in the company; this is because the value of the company's assets, net of all liabilities, must be equal to the amount of a shareholder's equity investment plus/minus all retained reserves.

This total equity may also be referred to as shareholders' funds or shareholders' equity. Shareholders' funds are made up of a mixture of equity capital subscribed by shareholders over the years, and value created by the company over the years.

Capital and Reserves attributable to equity holders
Called up share capital
Share premium account
Capital reserves
Revenue reserves
Revaluation reserve
Other reserves
Shareholder's Equity
Non-controlling interest
Total Equity

You will note that the term used in the statement of financial position is 'capital and reserves'. This is because all of the profits created and retained by the company are allocated across a number of reserves and the nature of the reserve determines what directors are allowed to do with that value.

The items shown on the statement of financial position under equity or shareholders' funds can be categorised as:

- share capital
- capital reserves, and
- retained earnings.

Shareholder's Funds	
Share capital	• When a company is created, the **memorandum of association** must state the amount of the share capital with which the company proposes to be registered and the division of that share capital into shares of a fixed amount. • This capital amount is known as the authorised share capital and acts as a ceiling on the amount of shares that can be issued although it can subsequently be increased by the passing of an ordinary **resolution** at a company meeting.
Capital reserves	• Capital reserves include the revaluation reserve, share premium reserve and capital **redemption** reserve. • The revaluation reserve arises from the upward revaluation of fixed assets, both tangible and intangible. • The share premium reserve arises from issuing shares at a price above their **nominal value**. • The capital redemption reserve is created when a company redeems, or buys back, its shares and makes a transfer from its revenue reserves to its capital reserves equal to the nominal value of the shares redeemed. • Capital reserves are not distributable to the company's shareholders as apart from forming part of the company's capital base, they represent unrealised profits, though they can be converted into a bonus issue of shares.

Shareholder's Funds	
Revenue reserves	• **Retained earnings** is a revenue reserve and represents the accumulation of the company's distributable profits that have not been distributed to the company's shareholders as dividends, or transferred to a capital reserve, but have been retained in the business. • If a company has accumulated losses (so that it has a deficit on the retained earnings reserve) it is not allowed to pay dividends until it has accumulated enough profits to create a positive balance.

2.3.6 Provisions and Off-Balance Sheet Items

IAS 37 contains rules on provisions and creates a separate heading for provisions that have resulted from past events or transactions and for which there is an obligation to make a payment, but the exact amount or timing of the expenditure has yet to be established. Such provisions may arise as a result of the company undergoing a restructuring, for example.

Given the uncertainty surrounding the extent of such liabilities, IAS 37 requires the company to create a realistic and prudent estimate of the monetary amount of the obligation, once it is committed to taking a certain course of action.

Provisions cannot, however, be made with respect to possible, but not probable, future obligations that may arise on the occurrence of a future event.

As a result, not all the company's assets and future obligations may be shown on the statement of financial position. If a company does not have a definite legal liability for a sum, or does not have full legal ownership of assets that it uses, it may exclude these items from its accounts. These items are then referred to as off-balance sheet items.

An example is contingent liabilities – potential, rather than certain, obligations when the amount and timing are unknown. They are not recorded on the statement of financial position. Instead, explanatory information is disclosed in the notes to the accounts. Other examples include operating leases (assets which are leased, and when the lessee does not have a legal obligation to insure and maintain them) and funding through certain investment vehicles.

2.3.7 Analysing the Statement of Financial Position

As part of the due diligence by a potential investor, the statement of financial position will be one of the key documents used to assess the overall financial soundness of a potential purchase of such securities.

A vital consideration for any investor or lender is the relative size of shareholders' equity compared to debt, as this provides insight about how a company is financing its operations. Large short-term liabilities, for example, increase a company's sensitivity to interest rate changes and also influence the **credit rating** which is granted to a company by a credit rating agency.

The assets portion of the statement of financial position can contain large amounts of intangible assets. Assets such as goodwill are also worth close examination by investors since, if they become disproportionate when compared to other current and long-term assets, this could be a warning that there are other issues which require closer attention.

The notes to the statement of financial position contain information that is critical to properly understanding and analysing a company's financial statements. Some of the more pertinent details that an investor would want to examine in the notes to the financial statements are the following:

- Companies are required to disclose the accounting policies that have been used to present the company's financial condition and results. Disclosure of any items which are extraordinary will take on special significance. The comments will also provide insight into the quality of judgements of the key management team, including any specific comments from the managing director/chief executive officer as well as the chairman of the board.
- The notes will provide detailed information about the company's current and deferred income taxes.
- The notes need to disclose the company's pension plans and other retirement or post-employment benefit programmes. The notes contain specific information about the assets and costs of these programmes, and indicate whether the plans are adequately funded.
- The notes also contain information about stock options granted to officers and employees, including the method of accounting for stock-based compensation and the effect of the method on reported results.

All of these items, as well as the statement from the chairman of the board and the audit report will be scrutinised carefully by the investment community to determine how willing they are to purchase securities from the issuer, and on what terms such securities should be offered.

Financial ratios are considered in section 3, but over and beyond ratio analysis, there is considerable benefit to be gained from trend analysis. In this case the current statement of financial position, for example, is compared to those for the preceding years, often five, with a view to establishing the trends of the data and to provide early indicators for investors to changes which might be a cause for concern.

One technique for examining trends is known as common-size analysis. Common-size analysis (also called vertical analysis) expresses each line item on a single year's statement of financial position as a percentage. By comparing two or more years of common-size statements, changes in the mixture of assets, liabilities and equity become evident. The trends that are discernible using this approach will reveal what is happening beneath the surface of the day-to-day operations of a company. By performing such an analysis, it is possible to have much greater insight into a company's financial position than is accessible from consideration of just one year's financial statements, useful as that is.

2.4 Income Statement

Learning Objective

1.2.3 Be able to assess the purpose, structure and relevance of statements of profit and loss, from the perspectives of corporate management teams and potential investors

The income statement summarises the company's revenue transactions over the accounting period to produce a profit or a loss. As a result, the income statement is often referred to as the profit and loss account. However, being constructed on an accruals basis, rather than a cash basis, profit must not be confused with the company's cash position.

The two specific functions of this financial statement are to:

- detail how the company's reported profit was arrived at, and
- state how much profit has been earned and how it has been distributed.

The amount of profit earned over the accounting period will impact the company's ability to pay dividends and its ability to finance the growth of the business from internal resources.

An example of the format of the income statement is shown in the following table.

XYZ Company ltd **Income Statement** **For the year ended 31 December 2024** (All amounts are in 000s)			
	Notes	**2024**	**2023**
Revenue			
Cost of sales			
Gross Profit			
Distribution costs			
Administration expenses			
Other expenses, gains or losses			
Operating Profit			
Share of profit from equity accounted investments			
Finance costs			
Finance income			
Other financial items			
Profit before Tax			
Taxation			

XYZ Company ltd Income Statement For the year ended 31 December 2024 (All amounts are in 000s)			
	Notes	**2024**	**2023**
Net Profit			
Profit for the year attributable to:			
Non-controlling interests			
Equity holders			
Net Profit			
Earnings per share			
Basic earnings per share			
Diluted earnings per share			

2.4.1 Revenue

Turnover (or sales or revenue) is the total value of goods and/or services that the company has supplied and invoiced during the accounting period. The company may additionally earn other income, such as bank interest or dividend receipts, however, this is not included in turnover for a trading company as it is not related to the company's principal business activity, which is the supply of goods or services. Turnover is recognised (entered into the accounting process) at the point of sale and not when the goods or services are paid for.

Revenue is calculated on an accruals basis and represents sales generated over the accounting period regardless of whether cash has been received. However, since there are no prescriptive rules as to when revenue should be recognised in the profit and loss account, this leaves scope for subjective judgement.

IFRS 15 (which has replaced IAS 18 'Revenue'), sets out how an entity core principle of IFRS 15 is that an entity will recognise revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. This core principle is delivered in a five-step model framework:

- Identify the contract(s) with a customer.
- Identify the performance obligations in the contract.
- Determine the transaction price.
- Allocate the transaction price to the performance obligations in the contract.
- Recognise revenue when (or as) the entity satisfies a performance obligation.

Application of this guidance will depend on the facts and circumstances present in a contract with a customer and will require the exercise of judgement. Revenue is recognised in the income statement when it meets the following criteria:

- It is probable that any future economic benefit associated with the item of revenue will flow to the company.
- The amount of revenue can be measured with reliability.

The IASB has published guidance on when revenue from the sale of goods, rendering of services and interest, royalties and dividends should be recognised as noted in the following table:

Revenue Recognition	
Sale of goods	Revenue arising from the sale of goods should be recognised when all of the following criteria have been satisfied: • The seller has transferred to the buyer the significant risks and rewards of ownership. • The seller retains neither continuing managerial involvement, to the degree usually associated with ownership, nor effective control over the goods sold. • The amount of revenue can be measured reliably. • It is probable that the economic benefits associated with the transaction will flow to the seller. • The costs incurred or to be incurred in respect of the transaction can be measured reliably.
Services	Revenue arising from the rendering of services should be recognised based on the stage of completion of the transaction, providing that all of the following criteria are met: • The amount of revenue can be measured reliably. • It is probable that the economic benefits will flow to the seller. • The stage of completion at the balance sheet date can be measured reliably. • The costs incurred, or to be incurred, in respect of the transaction can be measured reliably. When the criteria are not met, revenue should be recognised only to the extent of the expenses that are recoverable.
Interest, royalties and dividends	For interest, royalties and dividends, revenue should be recognised as follows: • **Interest** – on a time-proportion basis that takes into account the effective yield. • **Royalties** – on an accruals basis. • **Dividends** – when the shareholder's right to receive payment is established.

2.4.2 Accounting for Costs

Cost of goods sold (or cost of sales) refers to the direct costs associated with the production of goods and/or services supplied by the company. This includes such items as the cost of raw materials, manufacturing wages and factory expenses. Cost of sales does not typically include indirect expenses such as marketing, administration costs or directors' remuneration.

The cost of sales is arrived at by adding purchases of stock made during the accounting period to the opening stock for the period and deducting from this the value of the stock that remains in the business at the end of the accounting period.

Cost of sales = [opening stock (if any) + purchases – closing stock]

The opening stock figure used in this calculation will be the same as the closing stock figure in the current assets section of the balance sheet from the previous accounting period.

Operating or indirect expenses represent the remaining ongoing costs of running the business. Some companies divide operating expenses into separate categories, such as distribution and administrative expenses, as shown in the example. Operating costs include general overheads, such as selling, marketing, administration, depreciation and amortisation and all necessary business costs not directly related to producing goods and services. They do not include interest expenses or taxation, nor do they include the cost of purchasing non-current assets, such as plant and machinery, which is obtained within capital expenditure.

To summarise, only revenue expenses are recorded on the income statement. The difference between capital expenditure and the company's revenue expenditure is as follows:

Capital expenditure	• Capital expenditure is money spent to buy non-current assets, such as plant, property and equipment. • This is not shown in the income statement, which instead shows depreciation over the life of the asset. • Capital expenditure is shown instead in the cash flow statement, and its effects (ie, increase in assets and capital) are reflected in the income statement.
Revenue expenditure	• Revenue expenditure is money spent in order to generate revenue, and is therefore shown both in the income statement and the cash flow statement. • Examples of revenue expenditure include purchase of raw materials, wages paid to staff, rent paid on property, advertising and professional fees (such as audit fees). • Note that it includes both operating expenses and cost of goods sold.

Operating expenses may include exceptional items. These are generally unusual costs, either in terms of the amount or the occurrence. For example, a customer may collapse, leaving the company with a large bad debt. If this is not disclosed separately, it will create a misleading impression of an increased level of normal operating expense.

Profit before tax or trading profit represents a key measure of profitability that shows the company's performance after deducting all business-related costs and other indirect expenses.

2.4.3 Calculating Profit

As you will see from the **sample** accounts, several levels of profit are disclosed:

- **Gross profit** – calculated by deducting the cost of goods sold from revenue.
- **Operating profit** – stated after deducting distribution costs and administration expenses. Administration expenses usually include depreciation charges.
- **Profit before and after taxation.**

Net income is the company's total earnings or profit. It is calculated by taking the total revenues adjusted for the cost of business, interest, taxes, depreciation and other expenses.

Net Income / Profit = Total Revenue – Cost of Business – Interest – Taxes – Depreciation – Other Expenses

Net income is the profit that is attributable to the company's shareholders and is stated before the deduction of any dividends because dividends are an appropriation of profit and are at the discretion of the company directors. Net income is added to the retained earnings in the statement of financial position and disclosed within the statement of changes in equity. It is also included in this statement that the dividends paid during the year are deducted from the retained earnings. As we will see next, dividends paid are also disclosed in the cash flow statement.

2.4.4 Statement of Changes in Equity

The net income shown in the income statement is taken to the statement of changes in equity for the year and added to the retained earnings column.

A simplified version of the statement of changes in equity is shown in the following table. Note: in practice this would show the previous year for comparison, but this has been omitted to aid clarity.

XYZ Company ltd Statement of Changes in Equity For the year ended 31 December 2024 (All amounts are in 000s)							
	Ord Share Capital	Pref Share Capital	Share Premium Account	Revaluation Reserve	Capital Redemption Reserve	Retained Earnings	Total
As of 1 January 2024							
Gain on revaluation							

XYZ Company ltd Statement of Changes in Equity For the year ended 31 December 2024 (All amounts are in 000s)							
Issue of shares							
Net income for the year							
Preference dividends paid							
Ordinary dividends paid							
As of 31 December 2024							

A statement of changes in equity summarises the movement in the shareholder funds during the year, namely share capital, share premium, retained earnings, revaluation surplus and any unrealised gains.

2.4.5 Other Items

The income statement, as described above, includes, primarily, information on income and expenditure from the company's ordinary trading activities. However, there may be other items of income and expenditure, not from trading, which will affect the company's statement of financial position and cash flows. These may include the following:

- Actuarial gains or losses on defined benefit pension schemes.
- Profits or losses on revaluation of assets.
- Gains or losses on financial instrument **hedges**.

These are shown separately, under the heading of Other Comprehensive Income, to distinguish them from the core income and expenses of the company. In general, most of these items are not realised gains or losses and could be reversed with a change of market conditions. They will usually not be taken into account when calculating any of the financial ratios covered in section 3.

2.4.6 Analysing the Income Statement

For obvious reasons, a company's statement of profit and loss will be a main focus of attention to the investment community, as it directly reflects the performance level of the company from current operations. Moreover, analysis of the items in the statement of profit and loss reveals not only the size of a company's profit or losses, but also considerable details on the quality of its income and expenditure.

Investors will want to look closely at the breakdown of expenditures to see if there are signs that the company's management is overspending, especially in relation to previously released targets or forecasts from previous financial statements.

Gross Profit Margin

Earnings Per Share = (Net Income – Dividend Payments) / Weighted Average Shares Outstanding

This is a key figure that will be examined by investors and analysts as it provides guidance to the marketplace as to the company's valuation and can allow comparison to other companies. It is important to use this alongside the Price/Earnings Ratio (P/E Ratio), which measures a company's share price against its earning per share.

This is explored in more detail in section 3.5.1.

2.5 Cash Flow Statements

Learning Objective

1.2.4 Be able to assess the purpose, structure and relevance of statements of cash flow, from the perspectives of corporate management teams and potential investors

Cash flow statements seek to identify how a company's cash has been generated over the accounting period and how it has been expended. It differentiates between the profit shown in the income statement and the actual cash generated by the business.

Before we look at the format of the cash flow statement in more detail, it might be helpful to clarify why profit and cash are not the same. Not all income statement items result in an immediate cash flow or even any cash flow at all. For example:

- **Revenue** – this is based on when the sales are invoiced in the income statement and not when the cash is received. Cash flows take place when these debts are settled and its cash receipts will not, therefore, be the same as the amount of sales it makes.
- **Expenses** – in the income statement these are based on costs incurred rather than when an invoice is paid. Cash flows in relation to these items take place when these amounts are actually paid which is after they have been charged against profits.
- **Other expenses** – some of the company's expenses are not cash expenses. This includes depreciation and amortisation where the amount allocated for depreciation each year is a notional expense to more correctly calculate profit. Cash flows for these take place when the asset is purchased and when it is sold. Another example is when a company makes a loss on the sale of an asset. In this case, the statement of cash flows shows the positive cash receipt, but the income statement shows loss on sale of assets as an expense.

2.5.1 Format of Cash Flow Statements

Since cash is such an important figure in determining the continuing existence of a company, we need a statement showing how the company's financial resources have been generated and have been used in order to highlight the liquidity position and trends of the company.

The cash flow statement draws on information contained in both the statement of income and the statement of financial position to show where the company generated cash and cash equivalents and where it spent cash and cash equivalents during the financial period.

Cash flow statements are constructed as follows:

- Removing accruals, or amounts payable and receivable, from the income statement so that these amounts may be accounted for on a cash paid and received basis.
- Adjusting for balance sheet items such as an increase in the value of a company's stock or debtors or a decrease in creditors, all of which increase reported profit, but do not impact cash.
- Adding back non-cash items, such as depreciation charges, amortisation and book losses from the sale of fixed assets, while deducting book profits from fixed asset disposals recorded in the income statement which impact recorded profit but not the company's cash position.
- Bringing in changes in balance sheet items that impact the company's cash position, such as finance raised and repaid over the accounting period and fixed assets bought and sold.

As not all of the effects of accruals accounting can be stripped out from a company's operating profit, the cash flow statement is a bit of a misnomer in that it contains a mixture of accruals, cash and credit flows.

A simplified version of the statement is shown as follows:

XYZ Company ltd Statement of Cash Flows For the year ended 31 December 2024 (All amounts are in 000s)			
	Notes	2024	2023
Operating Activities			
Cash receipts from customers			
Cash paid to suppliers and employees			
Cash generated from operations			
Tax paid			
Interest paid			
Net Cash from Operating Activities			

XYZ Company ltd Statement of Cash Flows For the year ended 31 December 2024 (All amounts are in 000s)			
Investing Activities			
Interest received			
Dividends received			
Purchase of fixed assets			
Proceeds on sale of investments			
Net Cash Used in Investing Activities			
Financing Activities			
Interest paid			
Dividends paid			
Repayments of borrowings			
Proceeds on issue of shares			
Net cash generated from financing activities			
Net increase in cash and cash equivalents			
Cash and cash equivalents at the beginning of the year			
Cash and Cash Equivalents at the End of the Year			

Under IFRS, the relevant accounting standard is IAS 7 (Statement of Cash Flows) which stipulates the required format for cash flow statements. Under IAS 7, a company can generate and spend cash in three areas of its activities. These are:

- **Operating activities** – generally, cash flows arising from generating revenue and meeting the company's costs of managing its operations.
- **Investing activities** – generally, cash flows arising from the management of the company's assets, both in investing in new assets and selling existing ones.
- **Financing activities** – generally, cash generated from raising new loans and issuing new shares and cash spent on repayments of loans and redemptions of shares.

All of the company's cash flows can be allocated to one of these three areas.

2.5.2 Cash Flows from Operating Activities

Operating activities is the cash that has been generated from the company's trading activities, excluding financing costs.

Analysis of the cash flow statement will show that it is crucial that a company generates positive cash flow at the operating level otherwise it will become reliant upon fixed asset sales and borrowing facilities to finance its day-to-day operations.

In order to establish the cash generated from operating activities figure in the cash flow statement, IAS 7 allows one of two alternative presentations. The preferred method is the direct method, where the cash received from customers and paid to suppliers and employees. This is shown in the following table.

Operating Activities
Cash receipts from customers
Cash paid to suppliers and employees
Cash generated from operations
Tax paid
Interest paid
Net Cash from Operating Activities

Alternatively, the indirect method is where reconciliation is shown between the net income shown in the income statement and the cash generated from operations in the cash flow statement.

An example of the format for the indirect method is shown in the following table.

Cash Flows from Operating Activities	2024	2023
Net income after tax		
Additions to cash		
Depreciation and amortisation		
Decrease in accounts receivable		
Decrease in inventory		
Decrease in other current assets		
Increase in accounts payable		
Increase in accrued expenses		
Increase in other current liabilities		
Total additions to cash from operations		

Cash Flows from Operating Activities	2024	2023
Subtractions from cash		
Increase in accounts receivable		
Increase in inventory		
Increase in other current assets		
Decrease in accounts payable		
Decrease in accrued expenses		
Decrease in other current liabilities		
Total subtractions from cash from operations		
Total operating cash flow		

The simple formula to arrive at the total operating cash flow is as follows:

Net income after tax + total additions to cash from operations – total subtractions from cash from operations

The rationale for each of these adjustments is shown as follows:

Additions to Cash	
Depreciation and amortisation	• Depreciation is not a cash expense; it is added back into net income for calculating cash flow.
Decrease in accounts receivable	• If accounts receivable decrease, more cash has entered the company from customers paying their accounts – the amount by which accounts receivable has decreased is an addition to cash.
Decrease in inventory	• A decrease in inventory signals that a company has spent less money to purchase more raw materials. The decrease in the value of inventory is an addition to cash.
Decrease in other current assets	• Similar reasoning to above for other current assets.
Increase in accounts payable	• If accounts payable increase, it suggests more cash has been retained by the company through not paying some bills. The amount by which accounts payable has increased is an addition to cash.
Increase in accrued expenses	• For example, deferring payment of some salaries will add to cash.
Increase in other current liabilities	• Similar reasoning to above for increase in taxes payable.

Subtractions from Cash	
Increase in accounts receivable	• If accounts receivable increase, less cash has entered the company from customers paying their accounts. The amount by which accounts receivable has increased is a subtraction of cash.
Increase in inventory	• An increase in inventory signals that a company has spent more money to purchase more raw materials. If the inventory was paid with cash, the increase in the value of inventory is a subtraction of cash.
Increase in other current assets	• Similar reasoning to above for other current assets.
Decrease in accounts payable	• Similar reasoning to above for other current assets.
Decrease in accrued expenses	• If accounts payable decrease, it suggests more cash has been used by the company to pay its bills. The amount by which accounts payable decreased is a subtraction from cash.
Decrease in other current liabilities	• For example, an increase in prepaid expenses results in a subtraction of cash.
Increase in other current liabilities	• Similar reasoning to above for decrease in taxes payable.

2.5.3 Cash Flows from Investing Activities

Investing activities detail the investment income (dividends and interest) received in the form of cash during the year and the cash paid to purchase new non-current assets less the cash received from the sale of non-current assets during the year.

The relevant section of the statement of cash flows is shown as follows:

Investing Activities
Interest received
Dividends received
Purchase of fixed assets
Proceeds on sale of investments
Net Cash Used in Investing Activities

The company's investing activities relate principally to acquisitions or disposals of non-current capital assets such as land, buildings, machinery and other significant investments. This is referred to as capital expenditure.

A company's survival and future prosperity are dependent upon it replacing its fixed assets, in order to remain efficient. Ideally, these assets are financed with capital of a similar duration to the economic

life and payback pattern of the asset; otherwise, the company will have insufficient funds to finance its operating activities.

This section of the statement of cash flows also shows amounts spent on acquisitions of businesses and proceeds from the disposal of these.

This section may also include interest received and dividend income. Under IAS 7, interest and dividend income may be included either under cash flows from operating activities or cash flows from investing activities, at the discretion of the company and its auditors.

2.5.4 Cash Flows from Financing Activities

Financing activities include the cash spent during the year on paying dividends to shareholders, the cash raised from issuing shares or borrowing on a long-term basis, less the cash spent repaying debt or buying back shares.

The relevant section of the statement of cash flows is shown as follows:

Financing Activities
Interest paid
Dividends paid
Repayments of borrowings
Proceeds on issue of shares
Net cash generated from financing activities

This final section of the statement of cash flows shows fund flows arising from the company's capital sources, including income from raising new debt or issuing new shares and cash outflows for debt redemptions and repayments, or share buybacks. It also includes purchases of shares for the employee share scheme, and the servicing of both debt and equity – in the form of dividend payments and interest payments.

Note that, under IAS 7, interest payments may be shown either here or under cash flow from operating activities.

2.5.5 Analysis of Cash Flow Statements

Cash flow statements show how a company's cash has been generated over the accounting period and how it has been expended. The statement is vital in helping investors, lenders and directors understand whether the company is generating adequate cash to:

- continue to invest in non-current assets, to support the future growth of the company
- pay its suppliers as they fall due
- support its pensioners in the longer term, and
- service its capital providers by making interest and redemption payments to lenders and paying dividends to shareholders.

It also helps directors anticipate future funding requirements and cash surpluses and formulate strategies to deal with these.

As listed companies typically use accrual accounting, the statements of profit and loss released each quarter by a company will not necessarily reflect changes in their cash positions. If one has invested in a company or is contemplating an investment, one of the crucial considerations will be whether the company has sufficient cash on hand to meet its obligations or whether it is likely to face a cash crunch in which it could be forced to sell assets under duress or have to seek emergency funding under disadvantageous conditions.

While a company may be earning a profit from an accounting perspective, it may, during the quarter, actually end up with less cash than when it started the quarter. Even profitable companies can fail to adequately manage their cash flow, which is why the statement of cash flows is vitally important; it helps investors see if a company is having trouble with its cash position.

Investors will use the statement of cash flows in a variety of ways:

- Cash from operating activities is compared to the company's net income. If the cash from operating activities is consistently greater than the net income, the company's net income or earnings are said to be of a high quality. If the cash from operating activities is less than net income, a warning to investors should be raised as to why the reported net income is not turning into cash.
- Many investors have the view that cash is king. If a company consistently generates more cash than it is using, it could increase its dividend, buy back some of its stock, reduce its debt, or acquire another company. All of these are perceived to be good for shareholder value. On the contrary, if a company is lacking cash and faces momentary bouts of illiquidity, then there may eventually be questions raised as to its ability to survive and its solvency.
- The methods of common sizing discussed in the previous sections can also be applied to a company's statement of cash flows. For example, the financing activities revealed in the financing statement of cash flows can throw further light on the **gearing** position of the company, as all of the financing debits and credits to the cash account will be viewable in one place.

3. Financial Analysis

Learning Objective

1.2.10 Be able to assess the main advantages and challenges of performing financial analysis: comparing companies in different countries and sectors; comparing companies that have different accounting currencies; comparing companies that use different accounting standards and/or year ends; comparing different companies within the same sector; over-reliance on historical information; access to accurate and timely information, including the benefits and limitations of relying on third party research; gauging industry and company sensitivities to technological, market, supplier, customer and government-legislated change; estimating the impact of significant changes to the future structure, strategy, management and viability of a company

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The financial statements and associated explanatory notes issued by a company contain a significant amount of data that needs to be turned into meaningful numbers. These can then be used for assessing the profitability of a company, the risks attached to those earnings, its ability to meet its liabilities as they fall due and to identify trends.

There are three main groups of analysts of financial statements:

- Suppliers and lenders.
- Investors.
- Management.

Each group analyses many of the same performance ratios but for differing reasons.

Questions that may be asked in Relation to Financial Statements	
Trade suppliers and lenders	• What is the customer's ability to pay interest and invoices and repay debt at maturity? • How reliable are the customer's cash flows? All obligations must be met with cash, so sometimes, cash flows can be more important than profit performance. • What is the company's capital structure? When a company already has significant debt, can it raise additional short-term financing?
Investors (shareholders) and equity analysts	• How do the company's key performance ratios compare with competitors? • How much risk is in the company's capital structure? • Is the company's market valuation perceived as low or high compared with competitors? • What are the company's expected annual returns? • Does the company pay dividends? Can it sustain them in a future downturn?

Questions that may be asked in Relation to Financial Statements	
Management	• How well has the firm performed and why? • How well have management themselves performed? • Which division is performing the best (in terms of growth, return on capital, cash flows)? • What are the strengths and weaknesses of the company's financial position? • What should their strategy be regarding dividends and financing?

The range of financial ratios that can be used in making assessments can be categorised under a number of different headings; but for the purpose of this chapter, we will group them into the following types.

Ratios and Yields	
Profitability	• Measures to assess the trading or operating performance of the company, ie, levels of trading profits generated and the effectiveness of the use of trading assets.
Operating efficiency	• Measures that compare the operating expenses and assets of a business to a benchmark to determine if the operating expenses are reasonable.
Liquidity	• Measures to assess the trading risk of the company. This is the risk that, as a result of trading activities, the company may be unable to pay its suppliers as the debts fall due and cease to exist.
Gearing	• Measures to assess the risks to the providers of finance due to the company's level of borrowing.
Investors' ratios	• Measures to assess the returns to providers of finance, who may be either shareholders or lenders.

We will consider some of the main types of ratios encountered in the following sections.

3.1 Profitability Ratios

Learning Objective

1.2.5 Be able to analyse securities using the following profitability ratios (may include calculations): gross profit margin; net profit margin; operating profit margin; equity multiplier; return on capital employed; return on equity; return on assets

Profitability ratios provide information about management's performance in using the resources of the business. These ratios are used to assess the effectiveness of a company's management in employing the company's assets to generate profit and shareholder value.

3.1.1 Profit Margins

Profit margin is a profitability measure that shows the percentage of profit in comparison to sales. Profit margins are derived from the income statement and are expressed as profit as a percentage of revenues. Three types of profit margin, and the formulae to calculate them, are as follows:

Gross profit margin = (Gross profit ÷ Revenues) x 100

Operating profit margin = (Operating profit ÷ Revenues) x 100

Net profit margin = (Net profit ÷ Revenues) x 100

The figures for the calculation are derived from the income statement as highlighted in the following table:

Revenue
Cost of sales
Gross Profit
Distribution costs
Administration expenses
Other expenses, gains or losses
Operating Profit
Share of profit from equity accounted investments
Finance costs
Finance income
Other financial items
Profit before tax
Taxation
Net Profit

Gross Profit Margin

- Shows the profit a company makes after paying for the cost of goods sold.
- Provides a measure of how efficient the management is in using its labour and raw materials in the production process.
- Firms that have a high gross profit margin are more liquid and so have more cash flow to spend on research and development expenses, marketing and investing.

Gross vs Operating Profit Margin

- The difference between the gross and the operating profit margin is that the gross profit margin accounts for just the cost of goods sold, whereas the operating profit margin accounts for the cost of goods sold and administration/selling expenses.
- The higher the margin, the better, as this shows that the company can keep its costs under control, which can mean that sales are increasing faster than costs and the firm is in a relatively liquid position. Of course, to do this on a continuing basis, the company must continue to ensure its long-term survival.

Net Profit Margin Ratio

- All costs are included to find the final benefit of the income to a business and so measures how successful a company has been at the business of making a profit on each sale.
- Net profit may also be referred to as profit after tax.

Important considerations when calculating profit margin

- The formulae for calculating profit margin are straightforward, but there are some points to note:
  - Revenues equate to sales. If there is other income or other items such as sales returns or discounts, consideration should be given to removing these so as not to inflate the profit margin.
  - Gains or losses on disposal of assets can also skew the results and disguise the underlying profitability of the company and so again, consideration should be given to removing these.
  - The tax liability of a company can be affected by carry forward losses that make the net profit margin look better or worse and so again, consideration should be given to estimating what the net profit should be without that distorting effect or alternatively, using the profit before tax.

Clearly, all other things being equal, a higher profit margin is preferable to a lower profit margin. It is one of the most essential financial ratios, as it includes all the factors that influence profitability whether under management control or not. The higher the ratio, the more effective a company is at cost control. Compared with an industry average, it tells investors how well the management and operations of a company are performing against its competitors. Compared with different industries, it tells investors which industries are relatively more profitable than others.

3.1.2 Return on Assets

Return on assets is a ratio that measures the profitability of a business in relation to its total assets and so is measuring how effectively a company can earn a return on its assets.

The formula for return on assets is:

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100 = x\%$$

Net income is another term for net earnings, net profit or profit after tax. All four terms mean the same thing. The figure for total assets may be either the one shown in the statement of financial position as at the year-end or average total assets; the latter is simply the average of the opening and closing assets for the year.

Intuitively, you can see that a higher ratio is more favourable to investors because it shows that the company is more effectively managing its assets to produce greater amounts of net income.

Return on assets (ROA) is commonly used by analysts when comparing companies in the same sector. Different industries will have different average ROAs; ones that are capital intensive and require significant assets such as steel production, transportation or oil production will generally have a lower ROA, while ones that are less capital intensive such as software companies will have higher ROAs. However, there are several factors which can influence a company's ROA – asset utilisation, profit margin, capital structure and industry-specific factors which can change over time alongside the cyclical nature of the market.

3.1.3 Return on Equity

Return on equity (ROE) measures the ability of the firm to generate profits from its shareholder funds.

The formula for return on equity is:

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Shareholder funds}}$$

Preference share capital is usually excluded from shareholder funds when calculating, ROE and an average of shareholder funds may be used.

ROE is often used to compare a company to its competitors. It is most useful when comparing companies in the same sector as average returns vary from sector to sector, but market averages are also calculated. In order to satisfy investors, a company should be able to generate a higher ROE than the return available from a lower-risk investment.

A high ROE of itself does not show the risk associated with generating that return. A company may use high levels of debt to generate a higher net profit and so boost ROE; levels of debt that are too high will carry high interest payments and an increased risk of default.

A sustainable and increasing ROE over time can indicate that a company is reinvesting its profits effectively and generating shareholder value. In contrast, a declining ROE can mean that management is making poor decisions on reinvesting capital in unproductive assets. ROE is widely used to evaluate competing investment options in conjunction with the return on capital employed.

3.1.4 Return on Capital Employed

Return on capital employed (ROCE) is widely seen as one of the best ratios for measuring overall management performance, in relation to the capital that has been paid into the business.

ROCE is calculated as follows:

$$\text{Return on Capital Employed} = \frac{\text{Profit before Interest and Tax}}{\text{Capital Employed}} \times 100 = x\%$$

The profit figure can be viewed as operating profit plus interest receivable and income from other investments, ie, the profits that management has generated from the resources it has available. It is specifically before interest payable since that will clearly be dependent on the financing of the business; the larger the loans, the larger the interest payable.

The component parts of 'capital employed' are shown as follows in an expanded version of the formula:

$$\text{ROCE} = \frac{\text{Profit before Interest and Tax}}{\text{(Equity + Long-term liabilities + Short-term interest-bearing liabilities)}} \times 100 = x\%$$

The capital employed should include the short-term interest-bearing borrowings that the company has in its statement of financial position, as well as the long-term liabilities. This is because borrowing, for example, in the form of a bond issue, will eventually become payable in less than one year, and will be classified as a current liability before it is repaid. If this borrowing was not included in capital employed when it became short term, this would fail to reflect the reality of the company's debts.

ROCE looks at the returns that have been generated from the total capital employed in a company, namely debt and equity. It expresses the income generated by the company's activities as a percentage of its total capital which can then be used to compare the returns generated to the cost of borrowing, establish trends across accounting periods and make comparisons with other companies.

Effectively, the ROCE gives a **yield** for the entire company. It compares the money invested in the company with the generated return. This annual return can then be compared to other companies, or to less risky investments.

It should be noted that the result can be distorted in the following circumstances:

- The raising of new finance at the end of the accounting period, as this will increase the capital employed, but will not affect the profit figure used in the equation.
- The revaluation of fixed assets during the accounting period, as this will increase the amount of capital employed while also reducing the reported profit by increasing the depreciation charge.
- The acquisition of a subsidiary at the end of the accounting period, as the capital employed will increase but there will not be any post-acquisition profits from the subsidiary to bring into the consolidated profit and loss account.

3.2 Operating Efficiency Ratios

Learning Objective

1.2.6 Be able to analyse securities using the following operating efficiency ratios (may include calculations): inventory turnover; receivables turnover; assets turnover

Operating efficiency ratios show how quickly the company is collecting money for its credit sales or how many times inventory turns over in a given time period. These ratios can indicate whether the company's credit terms are appropriate and whether its purchasing efforts are handled in an efficient manner. Efficiency ratios, also called activity ratios, go hand in hand with profitability ratios. Most often ,when companies are efficient with their resources, they become profitable.

3.2.1 Inventory Turnover

The inventory turnover ratio, or stock turnover ratio, measures how many times a company's average inventory is 'turned over' or sold during a period. It shows how well a company manages its stock levels and how frequently a company replenishes its inventory.

The formula to calculate inventory turnover is:

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}} = x \text{ times}$$

The cost of goods sold can be identified from the income statement and average inventory is used as a company's purchase of stocks will fluctuate greatly during the year.

Inventory turnover can also be turned into a number of days to make it easier to relate to. For example, if a company has a cost of goods sold of four million and an average inventory of one million, its inventory turnover is four times. To turn this into inventory days, you divide inventory by the cost of goods sold (one million/four million) and multiply by 365 to give 91 days of inventory turnover period.

Inventory management is one of the most critical areas for a business with regard to the efficiency of its working capital. In general terms:

- a low rate of inventory turnover may imply that a business bought too much stock or that stocks were increased in anticipation of sales that did not occur; in both cases, there is a high risk of inventory ageing, in which case it becomes obsolete and has little residual value, and
- a high rate of inventory turnover may imply that the company is managing its stock levels well and be a positive indicator.

It is, however, important to consider the nature of the business and industry averages before drawing conclusions. Increased inventory turnover may be indicative of a well-run business, but it may also be a result of holding very low levels of inventory as the company does not have the cash reserves to maintain normal stock levels which can result in loss of sales.

3.2.2 Accounts Receivable Turnover

Accounts receivable refers to the invoices that a company has issued for goods or services that yet to be paid. The ratio shows how well the company uses and manages its credit to customers and how quickly the debts are paid.

The formula for accounts receivable turnover is:

$$\text{Accounts receivable turnover} = \frac{\text{Net credit sales}}{\text{Average accounts receivable}} = x \text{ times}$$

Only credit sales are included as cash sales do not create a receivable item (as there is nothing due and outstanding) and net sales simply refers to sales minus returns and refunded sales. Not all companies report cash and credit sales separately, so using total sales may provide a distorted view.

Again, the ratio can be turned into the number of days in the same way as before. Expressing the ratio as a number of days provides a clearer indication of how long it is taking for a company to collect the money that it is owed. For example, a company may have a 30-day payment policy, and the result of the collection will show how this translates into practice and whether customers are paying later or the company is efficient at collecting its debts.

3.2.3 Asset Turnover

Asset turnover is a financial ratio that measures the efficiency of a company's use of its assets to produce sales. It is a measure of how efficiently management is using the assets at its disposal to promote sales. The ratio helps to measure the productivity of a company's assets.

The formula for asset turnover is:

$$\text{Asset turnover} = \frac{\text{Net sales}}{\text{Average total assets}} = x \text{ times}$$

As before, net sales are calculated after deducting sales returns, discounts and allowances. Average total assets is the simple average of the opening and closing figures.

A higher ratio is favourable, as it indicates a more efficient use of assets. Conversely, a lower ratio indicates the company is not using assets as efficiently. This can be due to excess production capacity, poor collection methods, or poor inventory management.

In general terms, the higher the ratio the better. Companies with low profit margins tend to have a higher asset turnover than those with higher margins. The asset turnover ratio tends to be higher for companies in certain sectors than in others. Retail, for example, is the sector that most often yields the highest asset turnover ratios, scoring around two. Conversely, firms in sectors like utilities and telecommunications, which have large asset bases, will have lower asset turnover.

Since this ratio can vary widely from one industry to the next, comparing the asset turnover ratios of a retail company and a utilities or telecommunications company would not be very productive. Comparisons are only meaningful when they are made for different companies within the same sector.

3.3 Liquidity Ratios

Learning Objective

1.2.7 Be able to analyse securities using the following liquidity ratios (may include calculations): current ratio; quick ratio; cash ratio

Liquidity ratios demonstrate a company's ability to pay its current obligations. In other words, they relate to the availability of cash and other assets to cover accounts payable, short-term debt and other liabilities.

3.3.1 Current Ratio

The current ratio or working capital ratio is used to determine if the current assets realisable within one year are sufficient to cover the liabilities that fall due within one year.

The formula for the current ratio is:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} = x \text{ times}$$

This ratio indicates whether a company has enough short-term assets to cover its short-term debt. Current assets like cash, cash equivalents, and marketable securities can easily be converted into cash in the short term. This means that companies with larger amounts of current assets will more easily be able to pay off current liabilities when they become due without having to sell off long-term, revenue-generating assets.

A ratio below one indicates negative working capital, while anything over two means the company is not investing excess assets in their most productive and yield-generating fashion.

A stronger ratio indicates a better ability to meet ongoing and unexpected bills, therefore taking the pressure off the company's cash flow. Being in a liquid position can also have advantages such as being able to negotiate cash discounts with suppliers. A weaker ratio may indicate that the business is having greater difficulties meeting its short-term commitments and that additional working capital support is required. Having to pay bills before payments are received may be the issue, in which case an overdraft could assist. Alternatively, building up a reserve of cash investments may create a sound working capital buffer.

Most believe that a ratio between 1.2 and 2.0 is desirable. However, the circumstances of every business vary and one should consider how different businesses operate before making a judgement about what should be an appropriate benchmark ratio.

Some practical problems arise when calculating or using the current ratio:

- As overdrafts are designed primarily to deal with short-term financing, they will be included within current liabilities but are frequently payable after more than one year in practice. Banks often allow companies to extend overdrafts for several years.
- Although inventory is contained within current assets on the balance sheet of a company and is therefore assumed to be convertible into cash within one year, this may not necessarily be the case.
- In periods of recession, there may be no easy way to obtain liquidity from inventory other than through a sale at very distressed prices.
- The ratio fails to take into account the timing of cash flows within the period. It might be the case that all the liabilities are payable in very short order, whereas many of the assets are only recoverable in 12 months' time.
- The ratio is static in that it reflects values at a point in time, ie, when the statement of financial position was drawn up. It is possible for a company to 'window dress' its accounts on that date so that its ability to meet its obligations is seen in the most favourable light.

In order to alleviate the criticism that the current ratio is static, a modified form of the ratio is often used. The working capital turnover ratio is calculated by dividing net annual sales by the average amount of working capital during the same 12-month period.

Working capital is defined as the total amount of current assets minus the total amount of current liabilities.

3.3.2 Quick Ratio

The quick ratio is an adaptation of the current ratio designed to remove the problem of inventory and is alternatively called the acid test ratio or liquid ratio.

The formula for the quick ratio is:

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{inventory}}{\text{Current liabilities}} = x \text{ times}$$

The term 'acid test' comes from the way gold miners would test whether their findings were real gold nuggets. Unlike other metals, gold does not corrode in acid; if the nugget did not dissolve when submerged in acid, it was said to have 'passed the acid test'. If a company's financial statements pass the figurative acid test, this is indicative of its financial well-being.

The acid test measures the ability of a company to use its near-cash or 'quick' assets to immediately extinguish or retire its current liabilities. Quick assets include those current assets that can be quickly converted to cash at close to their book values. An alternative formulation for the ratio can be expressed as follows:

$$\text{Acid test ratio} = \frac{\text{Cash} + \text{marketable securities} + \text{accounts receivable}}{\text{Current liabilities}} = x \text{ times}$$

Since it excludes the inventory value, the acid test ratio is a more stringent test than the working capital ratio. It indicates whether a firm has enough short-term assets to cover its immediate liabilities without selling inventory.

Generally, the acid test ratio should be 1:1 or better, however, this varies widely by industry. If a company has a ratio of less than one, this does not necessarily mean it is insolvent and unable to pay off its liabilities. Depending on the type of business, however, it may be a sign of liquidity problems.

One useful metric to look for is to see if the acid test ratio is much lower than the working capital ratio. If this is the case, current assets are highly dependent on inventory. Retail stores are examples of this type of business, which also helps to explain why many retailers have fallen victim to recessions.

3.3.3 Cash Ratio

The cash ratio or cash coverage ratio is a liquidity ratio that measures a firm's ability to pay off its current liabilities with only cash and cash equivalents. The cash ratio is much more restrictive than the current ratio or quick ratio because it excludes any other current assets and is, therefore, more conservative.

The formula for the cash ratio is:

$$\text{Cash ratio} = \frac{\text{Cash + cash equivalents}}{\text{Current liabilities}} = x \text{ times}$$

The cash ratio shows how well a company can pay off its current liabilities with only cash and cash equivalents.

- A **ratio of one** means that the company has the same amount of cash and equivalents as its current debt.
- A **ratio above one** means that all the current liabilities can be paid with cash and equivalents.
- A **ratio below one** means that the company needs more than just its cash reserves to pay off its current debt.

As with most liquidity ratios, a higher cash coverage ratio means that the company is more liquid and can more easily fund its debt. Creditors are particularly interested in this ratio because they want to make sure their loans will be repaid. Any ratio above one is considered to be a good liquidity measure.

3.4 Financial Leverage Ratios

Learning Objective

1.2.8 Be able to analyse securities using the following solvency/financial leverage ratios (may include calculations): debt to assets ratio; debt to equity ratio; equity-to-assets ratio; interest cover

Financial leverage ratios or gearing ratios look at the extent to which a company depends upon borrowing to finance its operations.

Investors prefer consistent earnings growth, or high-quality earnings streams, to volatile and unpredictable earnings. The quality of this earnings stream is dependent upon whether the company's business is closely tied to the fortunes of the **economic cycle**. It also depends on the level of a company's financial leverage, or capital structure.

Leverage ratios examine how far a company is exposed to financial risk, by evaluating how much debt it has relative to the amount of its equity, and whether it is able to service this debt without undue stress. They do this either by comparing the company's total debt to its total funding (debt plus equity) or to its total equity. In addition, it is important to also assess its interest cover or its ability to meet the interest payments on its obligations.

3.4.1 Debt-to-Equity Ratio

Financial leverage, also known as the debt-to-equity ratio, describes its capital structure or the ratio of debt-to-equity capital it employs. The formula is:

$$\text{Debt to equity ratio} = \frac{\text{Interest-bearing debt + preference shares}}{\text{Ordinary shareholder's equity}} \times 100 = x\%$$

Preference shares are included in the debt part of the calculation as preference share dividends take priority over the payment of equity dividends.

A company's financial gearing can also be expressed in net terms by taking into account any cash held by the company, as this may be available to repay some of the company's debt.

Debt finance can enhance a company's earnings growth as it is a more tax-efficient and, generally, less expensive means of financing than equity capital. If it is excessive, however, it can also lead to an extremely volatile earnings stream, given that debt interest must be paid regardless of the company's profitability.

3.4.2 Equity Multiplier

The equity multiplier is a measure of financial gearing or leverage for a business; indeed, it is sometimes known as the financial leverage ratio. The equity multiplier is, therefore, a variation of the debt-to-equity ratio.

It measures the amount of a firm's assets that are financed by shareholder's funds by comparing total assets with total shareholder's equity. Expressed in another way, it shows the percentage of assets that are financed by shareholders' funds.

The formula for equity multiplier is total assets divided by shareholders' funds:

$$\text{Equity multiplier} = \frac{\text{Total assets}}{\text{Shareholder's funds}} = x \text{ times}$$

The numbers for the formula are taken from the Statement of Financial Position. In the event that there is no debt, the ratio will be equal to 1.0 and, where there is debt financing, the ratio will be greater than 1.0.

The higher the ratio, the more the enterprise is relying on debt instruments such as bonds and/or loans in order to finance and run the day-to-day operations of the business. The lower the ratio, the less the enterprise is relying on such debt to finance its operations.

The equity multiplier, as with other financial leverage ratios, is an indication of the risk posed to creditors. When a firm's assets are primarily financed by debt, the company is described as highly leveraged and more risky for investors and creditors. A lower ratio is considered more conservative as the company does not have high debt servicing costs. What constitutes a high or low ratio will depend on the specific market sector in which the company operates.

3.4.3 Equity-to-Assets Ratio

The equity-to-assets ratio is another measure of a company's financial leverage and its solvency. Though important, the ratio should be used only with other financial ratios to determine a corporation's overall financial health.

The formula for the equity-to-assets ratio is:

$$\text{Equity-to-asset ratio} = \frac{\text{Net worth}}{\text{Total assets}} \times 100 = x\,\%$$

Net worth equates to the value of the company's equity, and so the result shows the percentage of the company that is attributable to shareholders. A high ratio means that the corporation is mostly owned by its shareholders, while a low ratio means that the corporation is likely burdened with high debts.

An equity-to-assets ratio of below 0.70 generally makes it difficult for a corporation to borrow money, due to concerns about its solvency.

3.4.4 Interest Cover

Companies with high levels of debt in their structure are said to be highly geared. A company which is highly geared has financial obligations which must be met, irrespective of the level of its profits, before any returns can be provided to shareholders. As a result, when a company is highly geared, analysts will pay great attention to its ability to meet interest payments on that debt.

Once again, there are different ways in which interest cover can be calculated, but for the purposes of this exam, the formula used is:

$$\text{Interest cover} = \frac{\text{Earnings before interest and tax (EBIT)}}{\text{Interest payable}} = x \text{ times}$$

The higher the interest cover that a company has, the greater the safety margin for its ordinary creditors and shareholders and the more scope it will have to raise additional loan finance without dramatically impacting its ability to service the required interest payments or compromise the quality of its earnings stream. An interest cover of 1.5 or less, indicates that its ability to meet interest expenses may be questionable.

This ratio, however, requires careful interpretation as it is susceptible to changes in the company's capital structure and general interest rate movements, unless fixed-rate finance or interest-rate hedging is employed.

3.5 Investor Ratios

Learning Objective

1.2.9 Be able to analyse securities using the following investor ratios (may include calculations): earnings per share; earnings yield; price/earnings (both historic and prospective); dividend yield; dividend payout; dividend/interest cover; enterprise value to EBITDA; price to book ratio; PEG ratio; price to sales

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In the following section, we will consider some of the ratios that are used to assess potential investments.

3.5.1 Earnings per Share (EPS)

We have already discussed EPS earlier in this chapter as a measure of the profitability of a company per share, and that this measurement allows meaningful comparisons to be made from year to year and with other companies. The EPS ratio is one of the most useful and often-cited ratios used in the investment world. It is used universally and more or less has the same meaning in most jurisdictions.

The quality of a company's earnings stream and its ability to grow its EPS in a consistent manner are probably the most important factors affecting the price of a company's shares, not least because earnings provide the ability to finance future operations and the means to pay dividends to shareholders.

There are three principal measures we need to consider:

- Earnings per share (EPS).
- Earnings before interest and tax (EBIT).
- Earnings before interest, tax, depreciation and amortisation (EBITDA).

Earnings per Share	
EPS	• The earnings per share ratio measures the profit available to ordinary shareholders and is taken as the profit after all other expenses and payments have been made by the company. • It is calculated as follows: $\text{EPS} = \frac{\text{(Net Income – Preference Dividends)}}{\text{Average Weighted Number of Ordinary Shares in Issue}}$ • The resulting figure is known as basic EPS. • This is a key figure which will be examined by investors and analysts as it provides guidance to the marketplace as to the company's valuation, and can allow comparison to other companies. It is important to use this alongside the price/earnings ratio (P/E Ratio) (see below), which measures a company's share price against its earning per share.
EBIT	• Earnings per share can also be calculated before the impact of interest payments and taxation. • EBIT is, therefore, operating income or operating profit.
EBITDA	• Earnings can also be analysed before making any financial, taxation and accounting charges through an EPS measure known as EBITDA. • EBITDA stands for earnings before interest, tax, depreciation and amortisation. • EBITDA provides a way for company earnings to be compared internationally, as the earnings picture is not clouded by differences in accounting standards worldwide.

There are several variations on the basic theme of the earnings per share ratio, for example to include expected growth multiples, but the **plain vanilla** version from which they derive is EPS. The metric is so widely followed that market analysts will use, for example, the EPS of the S&P as a critical variable in determining whether stock markets are fairly priced, overpriced or underpriced in comparison to historical norms.

You will also see diluted EPS ratios published. These highlight potential future changes in EPS as a result of the exercise of the conversion options attached to convertible stock or options or **warrants**. Each of these could result in additional shares being issued and, therefore, qualifying for a dividend in future years which would then effectively dilute the current EPS.

3.5.2 Price Earnings (P/E) Ratio

The price earnings ratio, or P/E ratio, measures how highly investors value a company's ability to grow its income stream. It is calculated by dividing the market price by the EPS as follows:

$$\text{P/E Ratio} = \frac{\text{Share Price}}{\text{EPS}}$$

The P/E ratio can, alternatively, be calculated by dividing the company's **market capitalisation** by its total annual earnings.

By comparing price and earnings per share for a company, one can analyse the market's stock valuation of a company and its shares relative to the income the company is actually generating. In general terms, a company with a high P/E ratio relative to its sector average reflects investors' expectations that the company will achieve above-average growth. By contrast, a low P/E ratio indicates that investors expect the company to achieve below average growth in its future earnings.

The P/E ratio can also be calculated on a historic or prospective basis.

- **Trailing P/E** – this is the ratio described above and uses the most recent net income figure.
- **Trailing P/E from continued operations** – this is the net income based on operating earnings and excludes earnings from discontinued operations, extraordinary items and accounting changes.
- **Forward P/E** – this is an estimated P/E ratio which is often based on an average of net earnings estimates from a group of analysts.

Although P/E ratios differ significantly between markets and industries, there could be several reasons why a company has a higher P/E ratio than its industry peers, apart from its shares simply being overpriced. These may include:

- a greater perceived ability to grow its EPS more rapidly than its competitors
- producing higher quality or more reliable earnings than its peers
- being a potential **takeover** target, and
- experiencing a temporary fall in profits.

Care should be taken when comparing P/E ratios, a topic we shall come to in section 3.6.4.

3.5.3 PEG Ratio

One way of establishing whether a company's P/E ratio is justified is to divide it by a realistic estimate of the company's average earnings growth rate for the next five years. A number of less than one indicates that the shares are potentially attractive. This is sometimes referred to as the 'PEG' ratio – price earnings to growth rate ratio.

The formula to calculate the PEG ratio is:

$$\text{PEG ratio} = \frac{\text{P/E ratio}}{\text{Expected growth in earnings}}$$

The PEG ratio is a useful indicator but, as with other ratios, it has its drawbacks. It is favoured by many analysts over the simpler P/E ratio because it also accounts for growth.

3.5.4 Earnings Yield

The **earnings yield** shows how much a company earns per share in percentage terms. The formula for earnings yield is:

$$\text{Earnings yield} = \frac{\text{EPS}}{\text{Price per share}} \times 100 = x\%$$

This is the inverse of the P/E ratio. It is not as widely used as the P/E ratio, but it can be used to identify whether assets are overpriced or underpriced. Earnings yield is one indication of value, as a low ratio may indicate an overvalued share or a high value may indicate an undervalued share.

In practice, however, the growth prospects for a company are critical to consider when using earnings yield, as stocks with high growth potential are typically higher valued and thus may have a low earnings yield even as their share prices are rising.

It is also used to identify whether the overall **market** is overvalued or undervalued by comparing the earning yield of an **index** such as the S&P 500 with yields on Treasury stocks. If the earnings yield is less than the rate of the Treasury yield, shares as a whole may be considered overvalued; if it is higher, shares may be considered undervalued relative to bonds.

3.5.5 Dividend Yields

Dividend yields indicate the expected return on a share so that it can be compared to other shares and other investments.

Dividend yields are calculated by dividing the dividend by the share price as follows:

$$\text{Dividend yield} = \frac{\text{Net dividend per share}}{\text{Share price}} \times 100 = x\%$$

The decision as to whether to pay a dividend, and, if so, how much, is entirely at the discretion of the board of directors of the company. As an ordinary shareholder one is not guaranteed that there will be a dividend at all, nor is there a specific amount that can be relied upon for companies that have historically paid dividends. It is also worth mentioning that many new companies and companies that are still at the stage of rapid growth may decide not to pay a dividend, as their shareholders might feel that the funds paid out in dividends could be better invested in further growth of the business through retained earnings.

There is no obvious relationship between the dividend yield and the company's perception in the marketplace. A high dividend yield could arise because a company has elected to pay a high dividend

amount per share or it could also arise, as is often the case, because the shares are currently valued by the market at a low multiple to earnings and dividends. This could be because investors are risk-averse or believe that the market prospects in general are unfavourable.

In more general terms, the case could be made that, if investors believe a company has good growth prospects and is attractive, this will tend to increase the share price and reduce the yield. From this perspective, there is also some value in the observation that companies with high P/E ratios tend to have low dividend yields and vice versa.

3.5.6 Dividend Cover

Long-term investors in equities will be much more influenced by the dividends paid out by a company, as this is a vital part of the total return from holding equities. The income stream from **ordinary shares** via the payment of dividends, however, cannot be relied upon in the way in which the dividend income from either a bond or preferred stock can be.

As well as looking at the dividend yield, investors will also consider the ability of the company to continue paying such a level of dividend. They do this by calculating dividend cover which looks at how many times a company could have paid out its dividend based on the profit for the year. The formula is:

$$\text{Dividend cover} = \frac{\text{EPS}}{\text{Dividend per share}}$$

The higher the dividend cover, the less likely a company will have to reduce dividends if profits fall.

An unusually high dividend cover, however, implies that the company is retaining the majority of its earnings, presumably with the intention of reinvesting to generate growth. As suggested, this is often true for companies which are still in a high growth phase, rather than more mature companies which are sometimes referred to as cash cows.

Generally speaking, a ratio of two times or higher is considered safe – in the sense that the company can well afford the dividend – and for a ratio lower than 1.5 there has to be some question as to how sustainable the current dividend may be. If the ratio is lower than one, the company is using its retained earnings from a previous year to pay this year's dividend and this is a cause for investor concern. The company is then said to be paying an uncovered dividend.

3.5.7 Dividend Payout Ratio

The **dividend payout ratio** is the amount of dividends paid to shareholders in relation to the total net income of the company. It is therefore the percentage of net income paid to shareholders and the formula for calculating it is:

$$\text{Dividend payout ratio} = \frac{\text{Dividends}}{\text{Net income}} \text{ or } \frac{\text{Dividend per share}}{\text{Earnings per share}} \times 100 = x\%$$

This ratio is worth considering alongside the dividend yield and dividend cover as it also indicates the percentage of profits that are being retained in the company – the retention ratio. In general terms:

- A high ratio means that the company is reinvesting less money back into the company, while paying out relatively more of its earnings in the form of dividends. Such companies tend to attract income investors who prefer the assurance of a steady stream of income to high potential for growth in share price.
- A low ratio means that the company is reinvesting more money back into expanding its business. By virtue of investing in business growth, the company may be able to generate higher levels of capital gains for investors in the future. Therefore, these types of companies tend to attract growth investors who are more interested in potential profits from a significant rise in share price, and less interested in dividend income.

There is no optimal dividend payout ratio, and it will vary from company to company and industry to industry.

3.5.8 Price-to-Book Value Ratio

The price-to-book value (P/B) ratio measures the relationship between the company's share price and the **net asset value (NAV)** per share attributable to its ordinary shareholders.

The price-to-book value ratio compares the share price to the company's assets and is expressed as a multiple to indicate how much shareholders are paying for the company's net assets. The formula is:

$$\text{Price to book ratio} = \frac{\text{Market capitalisation}}{\text{Shareholder's equity}}$$

Investors and analysts use this comparison to differentiate between the true value of a publicly traded company and investor speculation.

If the ratio shows that the share price is lower than its book value, it can indicate that it is undervalued or simply that the market perceives that it will remain a stagnant investment. If the share price is higher than its book value, then this would suggest that investors view it as a company which has above-average growth potential.

Price-to-book value is not considered to be as valuable with many kinds of companies as it can be for others because of the tendency for companies to reflect less of their value in the financial statements. A

high-technology company which relies heavily on intellectual capital may have a relatively low balance sheet book value.

3.5.9 Price-to-Sales Ratio

The price-to-sales ratio measures the current share price to sales per share and is calculated using the following formula:

$$\text{Price to sales ratio} = \frac{\text{Price per share}}{\text{Sales per share}} \text{ or } \frac{\text{Market capitalisation}}{\text{Total sales}}$$

The ratio values a share relative to its historical performance, market competitors or the general market. In general, a low price-to-sales ratio means a good investment because investors are paying less for each unit of sales. However, price to sales sometimes provide very limited information because it does consider any expenses or debt and a company with high sales may be unprofitable.

3.5.10 Enterprise Value to EBITDA

Enterprise value (EV) is a measure of a company's value and is often used as an alternative to straightforward market capitalisation.

A company's EV is calculated as its market capitalisation plus all of its outstanding debt, minority interest(s) and preferred shares, minus all cash and cash equivalents. The formula for EV is:

$$\begin{aligned}\text{EV} = {} & \text{Market capitalisation} + \text{Preferred stock} + \text{Market value of debt} \\ & + \text{Minority interest} - \text{Cash and equivalents}\end{aligned}$$

EV looks at the entire market value rather than just the equity value, so all ownership interests and asset claims from both debt and equity are included.

EBITDA is an acronym for earnings before interest, tax, depreciation, and amortisation. It is essentially net profit with interest, taxes, depreciation, and amortisation added back in.

Enterprise value to EBITDA is calculated as:

$$\text{Enterprise value to EBITDA} = \frac{\text{EV}}{\text{EBITDA}} \times 100 = x\%$$

EV can be thought of as the effective cost of buying a company or the theoretical price of a target company before a takeover premium is considered. A simplified and intuitive way to understand EV is to envision purchasing an entire business. If you settle with all the security holders, you have essentially purchased the company at its enterprise value or EV. The rationale for using the EV is that this is a figure that is not distorted by the gearing of the business, and, therefore, can be used to more directly compare companies with different financing strategies.

3.6 Financial Analysis

Learning Objective

1.2.10 Be able to assess the main advantages and challenges of performing financial analysis: comparing companies in different countries and sectors; comparing companies that have different accounting currencies; comparing companies that use different accounting standards and/or year ends; comparing different companies within the same sector; over-reliance on historical information; access to accurate and timely information, including the benefits and limitations of relying on third party research; gauging industry and company sensitivities to technological, market, supplier, customer and government-legislated change; estimating the impact of significant changes to the future structure, strategy, management and viability of a company

Financial ratios are a convenient way of summarising and presenting information. In general, they are easy to understand and help focus attention on the important aspects of business performance and risk.

A ratio is, however, meaningless in isolation. In order to be useful, a ratio must have something it can be compared against, such as:

- prior year figures
- competitors' figures, or
- budget figures.

Ratios can be used to highlight trends over a number of years, which may not be so apparent from the figures themselves. These trends can then be used to assess how the company is performing and to identify:

- whether the trends are moving upwards or downwards in terms of returns being achieved or the risks faced, and
- large changes in the ratios, from one year to the next, or large variances of the ratio against competitors or budgets.

3.6.1 Benefits and Limitations of Financial Analysis

Financial analysis of a company's accounting statements and the use of a wide array of financial ratios bring to light useful and insightful ways to understand how a business works, whether it is working well and how it compares with its peers and competitors. The kind of analysis that has been examined is the daily preoccupation of many analysts employed in the financial services whose role it is to advise companies and investors, potential or current, on how a company is operating.

Company owners and managers can benefit greatly from using these techniques to better understand their performance and how it might be improved. As most companies will be keen to show their performance to the financial community in the best possible light, there is often considerable effort employed to ensure that the ratios and metrics displayed will not disappoint investors.

The principal ratios used in financial analysis are concerned with liquidity, gearing and profitability, but there are other, more esoteric ones as well. It should be said that there is often a rather loose definition attached to some of the components that should be included in the calculation of the ratios and they can also vary from one jurisdiction to another.

Notwithstanding the methodological differences, financial ratios are a very valuable tool. In particular, if they are compiled consistently for the same company on a regular basis, they are very useful when looking for trends or discontinuities from one year to the next. Changes in the financial ratios will help to draw attention to where problems of efficiency or liquidity issues may be about to manifest themselves. Once a problem or point of concern is identified, one needs to look behind the ratio to find out what might be emerging problems in the underlying business fundamentals. In other words, in order to properly evaluate the trends and ratios described above, it is necessary to go on to consider the particular circumstances of the business.

3.6.2 Comparing Companies in Different Sectors

Companies have very different business models. A business model describes the key strategic direction of a company – its business philosophy – and there can be many different paths that lead to success.

Some companies are suppliers of merchandise to mass markets, while others occupy more specialised niches. Some companies are keen to have a very large share of the available market in the product/service which supply and work on the principle of low margins and high volume. Other companies may prefer having a high margin with relatively low volume.

In making comparisons between companies in general, it is vital to consider the most appropriate criteria to use in terms of financial ratio analysis, and not simply to take any ratio indiscriminately for comparative purposes and draw what will almost certainly be misleading conclusions.

3.6.3 Accounting Policies

The accounting policies adopted by a company can significantly impact its ratios and can also introduce a range of problems for comparison between different firms operating in different sectors of the economy and even more for international comparisons.

For example, if non-current assets are revalued, then depreciation charges will be higher. Hence, profits will be lower but, on the statement of financial position, more non-current assets mean a higher capital employed figure. Consequently, the return on capital employed will be reduced (lower profits divided by higher capital employed).

As a result, ratios can be significantly different if they are drawn from financial statements prepared under different sets of accounting standards, such as globally accepted IFRS versus local GAAP.

In comparing two companies where one does revalue non-current assets and one does not, or in comparing one company to another where non-current assets have been revalued in between, it has to be expected that there will be a distortion between the ratios as a result of this accounting policy.

3.6.4 Comparing P/E Multiples

By comparing price and EPS for a company, one can analyse the market's stock valuation of a company and its shares relative to the income the company is actually generating. Stocks with higher (and/or more certain) forecast earnings growth will usually have a higher P/E and those expected to have lower (and/or riskier) earnings growth will, in most cases, have a lower P/E.

Investors can use the P/E ratio to compare the relative valuations of stocks. It is essential to remember though that companies are rarely equal, however, and comparisons between industries, companies and time periods can be very misleading.

In general terms, companies in sectors of the economy where relatively high growth levels are expected – such as high technology – will have higher P/E ratios than those in sectors such as utilities or auto manufacturing. Companies in different sectors of the economy will also tend to exhibit generically contrasting P/E ratios. This will itself be largely based upon the market's expectations as to future earnings growth in different sectors. For example:

- a relatively young technology company which has bright prospects will often be rewarded by investors with a relatively high P/E ratio as the earnings are expected to grow dynamically.
- a mature utility company which has fairly predictable future earnings potential will tend to have a relatively lower P/E ratio based on more conservative growth estimations.

Only if one were to compare two companies from the same high-growth sector – such as biotechnology – and one had a P/E ratio of 20 and the other a P/E of 12 it might be reasonable to conclude that the former was more attractive, as the market's expectations for it were higher.

Comparing P/E ratios for companies in very different sectors of the economy is, therefore, not advisable, and even comparing the P/E ratios for companies across borders can be very misleading, owing to the different GAAP regimes. One factor which can influence any cross-border comparison between companies is the interest rate environment as well as the annual rate of **inflation** in the respective

national economy. If short-term interest rates are relatively low, and inflation is considered to be benign, a larger P/E ratio is supportable as there is less competition for equities coming from the income obtainable from **fixed-income securities** and vice versa. Also relevant to such comparisons are local cost structures for companies in general, the role of capital markets in capital formation, the extent of the role of government and the financial regulatory environment.

Caution in general is suggested when using the P/E ratio unless it is for highly comparable businesses in the same jurisdiction. Another useful application of the P/E ratio is to consider the relationship between the P/E ratio of an individual company's security and the P/E ratio of the stock market average or of the sector average. Some investors will be attracted to companies with a low P/E ratio as it suggests that the company may be undervalued. Once again, this needs to be placed into the context of which sector a possible acquisition candidate occupies. So, for example, a company interested in taking over a technology company will almost certainly have to pay an above-average market P/E multiple, but will look for one that is still attractively priced within that market sector.

3.6.5 Window-Dressing

One of the recurring comments made in the qualifications expressed regarding the interpretation of financial analysis relates to the timing of events recorded on a company's statement of financial position. If an event, eg, the issue of new shares, takes place towards the end of a fiscal year, then the correct approach is to use a technique to weight the event appropriately so that the impact of the event is spread out over the year.

More deliberate efforts can be made by companies to portray their accounts in the best light possible, and these are sometimes included under the heading of 'window-dressing'. Such transactions can be defined as transactions intended to mislead the user of the accounts. Another term which is sometimes used in this regard is the tendency to use 'cosmetic accounting techniques' to cover up the blemishes that would otherwise be apparent.

Window-dressing and cosmetic accounting can be more or less innocent and more or less dangerous for the unwary. It can also lead to a distorted view of relative performance between companies, whether in the same sector or jurisdiction, or for international comparisons.

A common cause of distortion arises because several ratios are calculated with reference to a year-end statement of financial position figure only. Ideally, one should compare a full year's transactions to a representative balance throughout the year. In assessing true profitability, one should compare the full year's profits to a representative amount of capital employed to get the most accurate and reliable measure of the return on capital employed.

3.6.6 Comparing Like with Like

When using financial ratios, therefore, it is imperative to compare like with like.

As previously discussed, the kind of depreciation methods used should be consistent and there is little value in comparing the inventory turnover ratios for a supermarket with those for a high-end retail boutique.

If one is considering the payables payment period, it is most useful to compare the invoiced payables to the invoiced cost of sales.

Also, when calculating profit margins, it is more reliable and accurate to compare the profit to the revenue that has generated that profit.

3.6.7 Overreliance on Historic Information

A common criticism that is made about financial analysis and the resulting interpretation that can be drawn is that, necessarily, all of the data that has informed the present ratios will be historic – ie, in assessing profitability, the analyst will be using revenues and costs and other pertinent data from the past.

While such data will have value with respect to future forecasts and can be used as a foundation for making comparisons across different companies, the key to the successful management of business is the ability of the management team to handle the unexpected, deal with contingencies and navigate their way through the uncertainties and risks that arise in a fast-changing business environment.

The global banking crisis revealed to the world that the issue of liquidity within the financial services sector had been vastly underrated. Banks that had operated for many years with very high gearing were suddenly exposed as having taken very large risks with respect to their liquidity. The business models of funding long-term obligations with short-term capital from previously highly liquid **money markets** turned out to have been a mirage.

In general terms, the liquidity of any business depends to a large extent on the macro monetary environment at the time. In addition, it is useful to consider the benchmarks or norms which prevail among the competitors and peer group for the sector of business in which the particular firm operates.

To take one example from the field of credit rating, the analysis which was performed by rating agencies and regulators in assessing the risks of collateralised debt obligations (CDOs) and other mortgage-backed securities was, as subsequent case studies and testimony have revealed, based on a study of property prices over a relatively short time-frame. One could make the case both that the sample period proved to be too short and that the modelling of a coordinated decline in housing prices had not been properly undertaken because the analysts were too focused on the most recent historic data.

Similar risks can arise for a business when the expectation is that the future will largely resemble the recent past, but developments in business processes, the burn-out of demand for products which easily become outmoded and the constant risk of disruptive innovations suggest that no business can become

overly reliant upon the continuation of trends which have been present in the past. The area of business process re-engineering (ie, the continuing need for innovation and adaptation to new practices in the way that business is conducted) is very active, and so are the threats to existing businesses from brand new competitors with lower cost bases and better products and services.

3.6.8 Benefits and Limitations of Relying on Third-Party Research

Many companies provide specialised research services for the macro economy and for particular sectors of the economy. They offer industry forecasts and can be engaged by specific businesses to undertake more detailed research on a custom basis.

In the financial services sector, there are many advisory and research organisations which examine the state of public finances and specific sectors of the market. The principal intended benefit to be derived from the work of such firms is to tap into the depth of knowledge and expertise within such firms and organisations and to extract authoritative and useful information to both business managers and the investment community.

There can also be considerable limitations as to the value of such research. Firstly, the organisation which is providing the reports may have a hidden agenda or in the worst case a conflict of interest. For example, the research firm may be trying to ingratiate itself with, or already have a relationship with, a particular company, and may present information in a biased fashion. Furthermore, some research firms have a deep, vested interest in only presenting positive information that will enhance their likelihood of being seen as supportive of a particular company or sector and more deserving of fees from potential clients.

The last issue raises the risk that third parties may not be as independent as one would expect or require. The fact that so many mortgage-backed securities were issued with AAA ratings and turned out in some cases to be worthless provides a clear illustration of the possible conflict of interest issues and the caution that must come with using third-party research.

3.6.9 Summary

While financial ratio analysis does have its limitations, it does prompt further investigation and allows investors or potential investors to ask questions.

- As financial statements contain historic data, ratios are not always predictive. Past performance may give no indication of future performance, particularly for research and development companies which may, for example, make a major discovery in medicine or technology.
- Despite accounting regulations, accounting data can be window-dressed.
- Ratios do not provide all the answers and are of limited value in isolation, but do prompt further investigation.
- Different companies within the same industry may be at different stages of building their business. For example, a new technology company may have very high levels of debt and limited cash flow. It may, therefore, have ratios which are poor when compared with more established companies in the same industry. However, because of a culture of innovation and enterprise, it may actually perform better and ultimately give a higher return on investment.

- Industry averages can also be misleading as they may be based on different accounting policies. This can be a problem when comparing industries in different countries that have different accounting standards.

One should always be vigilant for factors that cause any distortions in these ratios.

When considering financial ratios for comparative analysis, the aim should always be to compare like with like, to apply the correct perspective on financings and changes in capital structure during the period under investigation, to take into account the different business models and P/E multiples applicable to different sectors of the economy, the rate of change in key levels of financial performance, and, in general, to have a cautious view to over-reaching with the conclusions that one reaches from that analysis.

4. Corporate Actions

Learning Objective

1.3.1 Be able to assess the purpose and structure of corporate actions, how they impact on share prices, and their implications for investors: mergers, takeovers, acquisitions and divestments; share buybacks; stock capitalisation or consolidation; stock and cash dividends; rights issues; open offers, offers for subscription and offers for sale; placings

1.3.2 Be able to calculate the theoretical effect on the issuer's share price of the following mandatory and optional corporate actions: bonus/scrip; consolidation; rights issues

1.3.3 Be able to analyse the following in respect of corporate actions: rationale offered by the company; the dilution effect on profitability and reported financials; the implications of share buybacks to substantial shareholders and investors; the effect of share buybacks

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Corporate actions are an integral feature of security ownership and take place any time the issuer of a security pays an entitlement or changes the nature of a security it has issued. A corporate action is often defined as anything that happens to a security other than **secondary market** trading.

In this section, we will firstly look at what constitutes a corporate action and examples of some of the main types that are encountered to provide a context to discuss securities ratios and how these can vary from country to country. We will then consider some of the main types of corporate action that are encountered.

4.1 Types of Corporate Actions

Over a million corporate actions take place every year worldwide, alongside over three million fixed-rate interest payments and redemptions that occur. Examples of corporate actions include:

- distribution of interest or dividends
- bond repayments

- reorganisation of share capital
- distributions of stock
- capital raising
- return of capital to shareholders and demergers, and
- takeovers and mergers.

A basic distinction can be drawn between different types of corporate action – whether they are benefit distributions or a stock event.

A benefit distribution is a corporate action in which an issuer distributes a benefit in the form of cash or stock to those investors holding the underlying security. As a result of the distribution, the nature of the underlying securities is unchanged. Examples are cash dividends, interest payments, scrip dividends and bonus issues.

A stock event is a category of corporate action that involves an investor's holding of a security being replaced by cash, another security or a combination of the two. Examples are stock splits, reverse splits, demergers, capital repayments and rights issues.

Most corporate actions are initiated by the issuer of the security. Some are scheduled events such as dividend or interest distributions that are predictable, while others are unpredictable such as takeovers and mergers. Some events are initiated by the **holder** of the security such as:

- **Put option** – a bond with an option for the holder to initiate a repayment.
- **Convertible** – an option for the holder to convert into the ordinary shares of a company.
- **Warrants** – an option for the holder to convert into ordinary shares.

4.1.1 Categorisation of Corporate Actions

There is a wide range of corporate actions and various ways to categorise them. In Europe, they are categorised in one of three ways:

- **Mandatory** – these are automatically applied to a holding and examples include cash dividends, interest payments and bond repayments.
- **Mandatory with options** – these will take place, but the holder has a choice between options. Examples include stock dividends and rights issues.
- **Voluntary** – these require a decision by the holder as to whether to accept the action or to choose between options. Examples include takeovers.

In the US, they are categorised as either mandatory or voluntary:

- **Mandatory corporate actions** are automatically applied to a holding. Examples include stock splits, acquisitions and company name changes.
- **Voluntary corporate actions** require an investor's response to be applied. Examples include **tender** offers, optional dividends and rights issues.

A wealth manager needs to be aware of how they are categorised for a particular market as this may dictate how details of the corporate action are communicated and the response that is required. From the investor's perspective, it is probably far simpler. Mandatory actions take place without any need for an instruction whereas mandatory with options and voluntary events will require some form of decision.

4.1.2 Securities Ratios

Before we look further into the various types of corporate action, it is necessary to know how the terms of a corporate action such as a **rights issue** or bonus issue are expressed – a securities ratio.

When a corporate action is announced, the terms of the event will specify what is to happen. This could be as simple as the amount of dividend that is to be paid per share. For other events, the terms may announce how many new shares the holder is entitled to receive for each existing share that they hold.

So, for example, a company may announce a bonus issue whereby it gives new shares to its investors in proportion to the shares it already holds. The terms of the bonus issue may be expressed differently depending on the market.

- In Europe, for example, the securities ration may be expressed as 1:4, which means that the investor will receive one new share for each existing four shares held. This is the standard approach used in European and Asian markets and can be simply remembered by always expressing the terms as the investor will receive 'X new shares for each Y existing shares'.
- The approach differs in the US. The first number in the securities ratio indicates the final holding after the event; the second number is the original number of shares held. The above example expressed in US terms would be 5:4. So, for example, if a US company announced a 5:4 bonus issue and the investor held 10,000 shares, then the investor would end up with 12,500 shares.

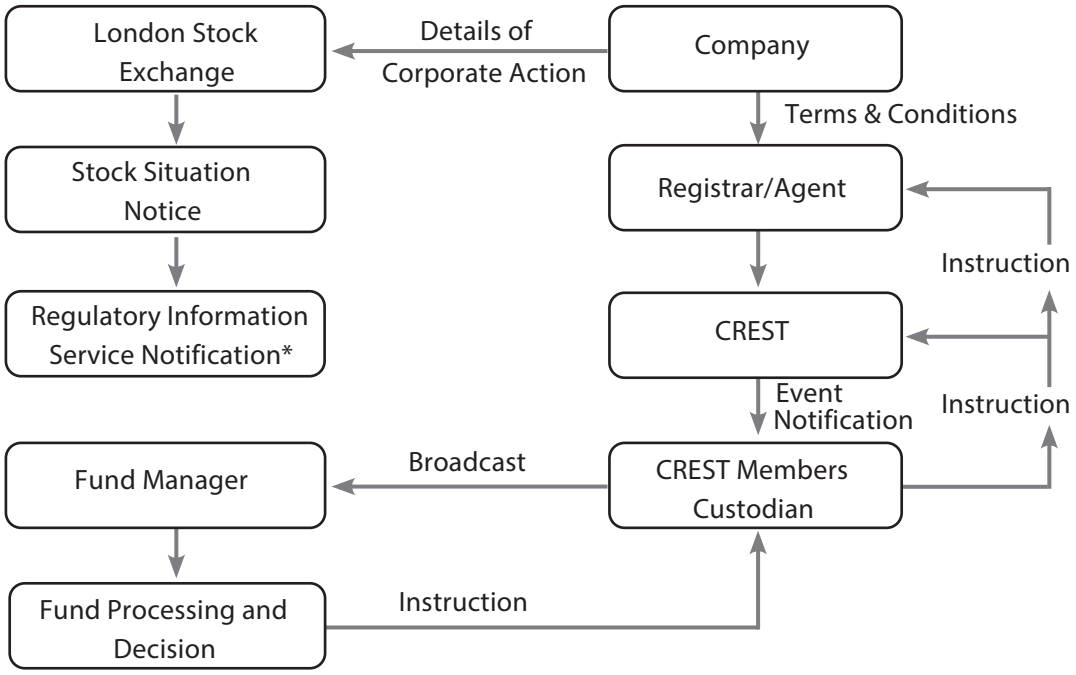
Understanding what is meant by the securities ratio for a specific event is critical, as a misinterpretation could lead to the wrong position being notified and traded before the error is identified. Where a wealth manager is considering the terms of a corporate action for their domestic market this should be straightforward as they will be familiar with accepted market practice, but when they are considering corporate actions for overseas holdings there is significant scope for error, thus requiring greater care.

4.1.3 Corporate Action Process

In general, a company must announce any major new developments without delay and corporate actions fall to be treated the same way.

Each market will have its own process for announcing corporate actions. As an example, we will look at how corporate actions are announced in the UK to bring out some of the key steps.

Corporate Action Announcements



The key steps in the process are as follows:

- The company with its advisers decides on a particular corporate action and prepares the necessary notification to holders and to the market.
- It issues details of the corporate action to its **registrar** and to the **stock exchange**.
- The stock exchange issues a stock situation notice which summarises the details of the action and publishes this to the market as a whole via a Regulatory Information Service* so that all investors are potentially aware of the event simultaneously.
- The registrar sets up details of the corporate action in its own records and advises **CREST** (the UK central securities depository) of the terms.
- CREST sets up details of the corporate action and prepares an event notification which sets out the terms of the event, the key processing dates and when instructions are required (if needed). Details of the event are notified to members of CREST who are holders of the security along with the key dates and instruction deadlines.
- Holders including wealth managers, receive details of the corporate action, validate the terms, set up their own records and, in due course, provide instructions where needed on what action to take.
- CREST receives and processes the instruction which are then communicated to the registrar.
- On the due date, securities and cash positions are updated as appropriate.

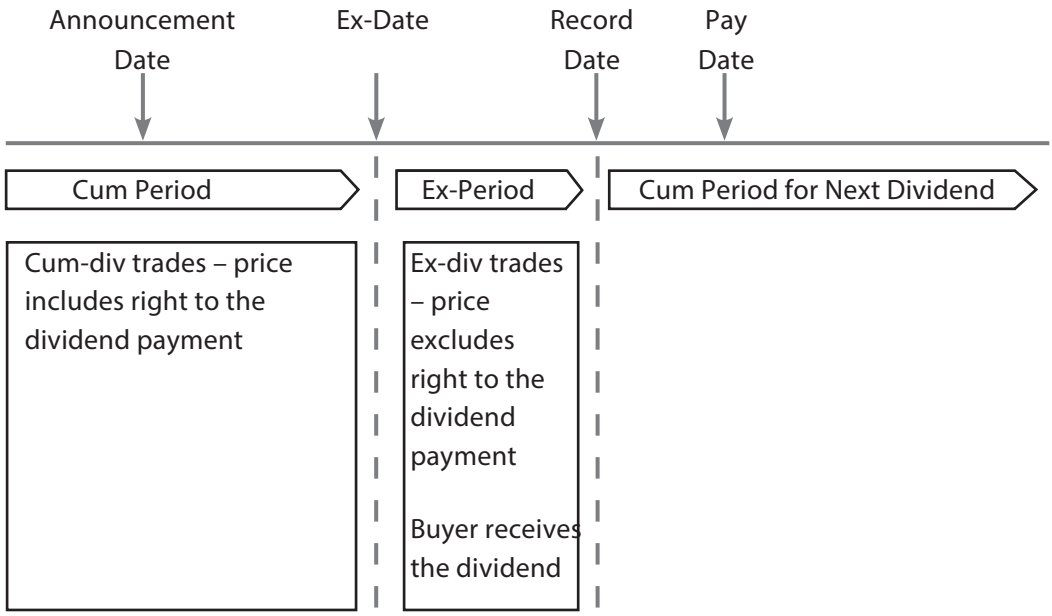
* A Regulatory Information Service (RIS) is authorised by the FCA to publish regulatory communications in relation to company announcements. There are five such companies, the most popular of which is operated by the London Stock Exchange (LSE), and known as the Regulatory News Service (RNS).

The process in each market may differ but, the general principles of notification of details of the corporate action, event set up, instructions, instruction processing and updating of securities and cash positions will be the same.

Where an investment manager holds securities in other markets, it needs to be able to determine details of the events that are announced. They may do this by using a custodian who will undertake this on their behalf or may decide to use a corporate actions service or both. One such service is offered by the Depository Trust Corporation, the central securities depository in the US.

For particular types of corporate action, the entitlement to participate may be based on when the holding was bought. There are a number of corporate actions which have similar characteristics in terms of their timing and when the benefits pass from seller to buyer. In general terms, these are best illustrated by the following diagram, where the benefit is a cash dividend. In other events, the benefit may be an entitlement to take up an offer of additional shares.

Even Entitlement



- **Announcement date** – on the announcement date, the directors of a company will announce whether the shareholders have voted to pay a dividend, declare the type of dividend, the amount paid per share, the payable date and the record date.

- **Ex-date** – the ex-date is used to determine who is entitled to receive the benefits in respect of the securities being traded. There are two common options:
  - Trades dealt prior to ex-date are dealt cum-entitlement or simply cum. That is, the purchaser will receive the benefit.
  - Trades dealt on or following ex-date are dealt ex-entitlement or simply ex. That is, the seller will receive the benefit.
  - However, by mutual agreement between the two trading parties, it is possible to trade special-ex or special-cum. During the cum-dividend period, where trades are dealt special-ex, the seller receives the dividend; during the ex-dividend period, where trades are dealt special-cum, the buyer receives the dividend.
- **Record date** – depending on the market, several days may be required to change stock ownership records following a sale. The registrar takes the stock ownership on the record date, normally a few days after the ex-date, to determine who to pay the dividend or other benefit to.
- **Payment date** – on the payment date, the dividend is paid. The payment date can range from the record date through to several weeks later.

4.1.4 Effect of Corporate Actions on Share Prices

A corporate action will often have some effect on the share price. In part, this may be purely a mathematical effect, such as with a bonus issue where if the number of shares is doubled, the share price is halved. Corporate actions will also convey information about the issuer to the market and so the share price may change by more than the maths alone would indicate.

We will consider various types of corporate actions in the following sections and how these affect the share price, but the following table shows the possible impact on the share price following certain events.

Event	Event Type	Possible Impact on Share Price on Ex-Date	Other Factors to Consider
Dividend	Distribution of profits	Reduction of the share price by the distribution amount	When the dividend is announced, there may be an adjustment of the share price reflecting how closely the dividend is in line with market predictions
Bonus Issue	Free distribution of shares	Reduction of share price proportionate to the increase in shares now available with the same net worth	Reasons for issuing of bonus shares will also impact the price on the announcement date (usually reducing it)

Event	Event Type	Possible Impact on Share Price on Ex-Date	Other Factors to Consider
Rights Issue	Option to buy new shares at a discounted price		Larger impact will be the market perception of an event, taking into account the discount amount and take-up volumes
Subdivision	Existing shares are **split** to increase the available shares		Largest impact will be the mathematical difference in more shares with the same NAV, eg, double the shares = half the price
Consolidation	Existing shares are consolidated, leading to a reduction in the number of shares available	Increase in share price due to fewer being available with the same net worth	Occasionally, there may be a negative impact on share price due to the market taking a negative view of this event
Takeover	The gaining of control of a company by another, or by any private body	Increase of the existing company share price by a premium based upon the capital value, under the terms of the offer	Takeovers eliminate the stock of the target company – its stock is no longer traded. The impact of the takeover on the price of the bidding company's shares is dependent on market reaction and is unpredictable
Capital Repayment	Repayment of part of the issued share capital	Reduction proportionate to the capital return	Dependent on market conditions and opportunities

4.2 Income Events

The main types of income events are dividend distributions and interest payments on bonds. In this section, we will look at dividend distributions and the various forms they can take.

4.2.1 Dividends

Day-to-day management of a company is undertaken by the board of directors, and their power to run the company extends to whether a dividend can be paid. The board determines whether the company is sufficiently profitable to pay a dividend and if so, how much. They then present a resolution to the ordinary shareholders requesting approval to pay the proposed dividend and the ordinary shareholders then vote whether to accept or reject the resolution.

Right to a Dividend

It should be noted that ordinary shareholders participate in profits by way of dividends, but that they do not have any right to a dividend; it is up to the board to propose payment of dividends.

Dividend Frequency

The frequency with which companies pay dividends varies: some companies pay one dividend a year, some pay two dividends a year and some pay quarterly.

- If more than one dividend is paid, then the earlier dividends are called interim dividends and the last dividend is called a final dividend.
- The interim dividend is paid after the results for the first six months of a company's financial year have been announced.
- Before declaring an interim dividend, the directors must satisfy themselves that the financial position of the company warrants the payment of such a dividend out of profits available for distribution.
- The final dividend is paid after the **annual general meeting (AGM)** has approved the accounts and the dividend for the full financial year.

Restrictions on Dividend Payments

The board has to operate within a set of rules that limit its ability to pay dividends.

To ensure that the assets of a company are not depleted at the expense of the creditors, company law typically restricts the type of profit which can be distributed to shareholders. Companies can pay dividends out of current year's profits and out of reserves.

Profits and Reserves	
Profits	• Profits and losses can be divided into two types: realised and unrealised. • Realised profit is one which has arisen from a real transaction. For example, if a company sells an asset then it will make, or realise, a profit or a loss on the transaction. • Unrealised profit is one which arises simply because the asset has increased in value, but has not been sold. For example, a company may buy a building for 1 million and in three years the building may be worth £1.6 million. The company may recognise the increase in value in its accounts but the profit of £0.6 million is unrealised; it has not arisen from a sale. An unrealised profit is sometimes referred to as a book profit.

Profits and Reserves	
Reserves	• Reserves are undistributed profits that have not been distributed to shareholders. • Net realised profits can be distributed as a dividend, but unrealised profits cannot be distributed. • This means that revenue reserves can be paid out to shareholders. So, for example, where a company has made insufficient profit to cover a dividend, they can still pay a dividend using their reserves or previous year's profit. • Once reserves have been capitalised, such as when a bonus issue takes place, they can no longer be distributed.

Dividend Process

Dividends are paid to shareholders whose names appear on the share register. As shares are continually changing hands, the share register is inevitably behind the actual trading of the shares and so there will be a well-established market approach in place for the payment of dividends so that investors, both buyers and sellers, know exactly what their entitlements are and nothing is left to chance.

As we saw earlier, there are key dates in the payment of dividends for registered securities:

- **Announcement date** – this is the dividend declaration date when details of the proposed dividend are announced along with a timetable of key dates.
- **Ex-dividend (XD)** date – on the ex-dividend day, the share trades without the right to the next dividend payment; they are said to be ex-dividend. In theory, on the ex-date the share price should fall by the amount the dividend amount.
- **Record date** – this is the day on which the company closes its share register for the payment of dividends and is sometimes known by its alternative name of 'book closure date'.
- **Payment date** – the dividend payment day is the day on which the shareholder will receive the dividend, either by cheque or bank transfer.

How this operates in practice will vary from country to country. Examples of approaches are shown in the following table:

Dividend Process	
Australia	• When a company announces a dividend, it sets a record date and shareholders on the register at close of business are entitled to the forthcoming dividend. The ex-dividend date is usually set one business day before the record date.
Japan	• An ex-date is not used, and instead the record date is the date for entitlement to the declared dividend. Dividend details are announced after the record date, but there is no fixed period for the payment date.

Dividend Process	
UK	• The record date should normally be a Friday, therefore, with standard settlement of **T+2**, the associated ex-date falls one business day earlier. Payment date for cash dividends should take place within 30 business days of the record date. (Note that the UK is planning to move to a T+1 settlement cycle by October 2027).
US	• When a company declares a dividend, it sets a record date and the ex-dividend date is usually set one business day before. Payment date is usually about one month after record date.

4.2.2 Stock Dividends

A stock dividend is a dividend payment that is made in the form of additional shares rather than cash. A company may choose to pay a stock dividend instead of a cash dividend or give shareholders the option of receiving the dividend in cash or shares. They are also known as scrip dividends.

Stock Dividend

A company may choose to issue a stock dividend for a number of reasons. One of the main reasons for doing so is that the company does not have the cash available to make a dividend payment or wants to retain the cash for investment.

As an example, a company may issue a 5% stock dividend, which gives existing investors one additional share for every 20 shares they already hold. From the investor's point of view this may seem positive, however, the total number of issued shares increases and so dilutes the value of existing holdings.

Scrip Dividend

A stock or scrip dividend option is when a company offers investors the choice of payment of a dividend in shares rather than cash. This is a mandatory event with options. If the shareholder does not make an election, they will still receive the default as set by the company, ie, the cash dividend payment.

Under a scrip dividend option, the cash value of the dividend is used to acquire new shares at a price that is usually an average of prices observed in the period leading up to the dividend payment. Fractions of a share cannot be acquired and instead the number of new shares is rounded down; any remaining cash balance is either paid to the shareholder or held by the company to be used in the next scrip dividend opportunity.

Example

A company has a share price of £2.00 and pays a dividend of £0.08 per share. If the company were to offer a scrip dividend to its shareholders it might offer shareholders one new share for every 25 shares that they hold.

The formula for the scrip issue of 1:25 (one new share for each 25 shares held) is calculated as:

$$\frac{\text{Share price}}{\text{Dividend per share}} = \frac{2.00}{0.08} = 25$$

So, if an investor holds 10,000 shares, they may take a cash dividend of £800 (10,000 x 0.08) or they may take 400 new shares (10,000 ÷ 25) which at £2.00 per share are also worth £800.

The price of £2.00 is calculated by a formula that is usually based on the average closing mid-market price in the week that the shares are marked ex-dividend.

The advantage of a scrip dividend for the shareholder is that they acquire new shares without incurring dealing costs. The advantage for the company is one of cash flow; the cash which would have been used to pay the dividend is retained within the company.

A scrip dividend is offered as an alternative to the cash dividend and, therefore, the company must ask shareholders if they wish to take it up. This involves notifying shareholders of the option and asking them to make an election within a deadline if they want to take up the scrip dividend offer. If action is not taken, then the shareholder will receive a cash dividend.

Dividend Reinvestment Plans

A dividend reinvestment plan (DRIP) is a variation on the theme. Under a DRIP, however, the company makes a cash payment to all shareholders and offers a scheme whereby shareholders can instead ask the company to use the cash to buy shares on their behalf in the market.

DRIPs, therefore, differ from scrip issues in the following ways:

- With a scrip dividend, new shares are issued by the company and the cash which would otherwise be used for the dividend is retained within the company. With a DRIP, the company pays the full amount of the cash dividend.
- With a scrip issue, the company issues newly created shares to those investors electing to receive their dividend in this way. With a DRIP, the company uses the cash dividend to buy the shares in the market and passes on the benefit of low **commission** rates it can negotiate for a large bulk purchase.
- It can take up to three weeks for the shares to be added to a **portfolio** in the case of a DRIP and one week in the case of a scrip dividend.
- A scrip dividend dilutes existing holdings as new shares are issued. A DRIP does not as the shares required are purchased in the market.

From the issuing company's point of view, DRIPs have no real effect on cash flow, as the cash that would have been paid is used in the purchase of shares that already exist in the open market – no **new issue** of shares occurs.

There is little, if any, benefit to major shareholders in electing for a DRIP, as all standard purchase fees still apply and the stock price is beyond discretion. However, small shareholders may benefit due to the elimination of minimum broker fees and so can accrue small additional shareholdings at a realistic price.

4.3 Capital Restructuring Events

In corporate action terms, capital restructuring events are ones where the number of shares held by an investor is altered either by issuing more shares or reduced, by consolidating the shares.

4.3.1 Bonus Issues

From time to time, companies may decide to issue further shares to existing shareholders without raising further capital as a means to make their shares more marketable.

In some markets, once a company's share price starts trading above a certain price level, its marketability starts to suffer as investors shy away from the shares as they consider them to be too expensive. Accordingly, a reduction in a company's share price as a result of a bonus issue usually has the effect of increasing the marketability of its shares and often raises expectations of higher future dividends. This in turn usually results in the share price settling above its new theoretical level and the company's market capitalisation increasing slightly.

The issue of new shares to existing shareholders without requiring any payment from them is usually known as a bonus issue. It can also be referred to as a capitalisation issue or scrip issue, and the names are interchangeable. (Note: do not confuse the term a 'scrip issue' with a scrip dividend; they are completely different actions.)

Under a bonus issue, a company will issue new shares to existing shareholders in proportion to their existing shareholding:

- A bonus issue involves the company in issuing further units of a security to existing holders based on the holdings of each member on record date.
- This involves the company converting reserves into the form of share capital. These reserves may have arisen from the accumulation of undistributed past profit or from issuing new shares in the past at a premium to their nominal value.
- These shares rank *pari passu* (ie, the same in all respects) with those already in issue and are distributed to the company's ordinary shareholders in proportion to their existing shareholdings free of charge.

Example

If a company's shares were trading at £16, it might announce a 3:5 bonus issue to reduce the price and improve marketability. What would be the theoretical effect on the post bonus issue share price?

Let us assume that an investor held 1,000 shares which would be valued at £16,000. Under the terms of the issue they would receive an additional 600 shares and the effect on the share price is shown in the following table:

Shares	No of Shares	Price	Value
Before the bonus issue	1,000	£16.00	£16,000
Bonus issue	600	–	–
After the bonus issue	1,600	£10.00	£16,000

The theoretical ex-bonus share price is simply calculated by dividing the value of the shares by the increased number of shares that the investor now holds – in other words, £16,000 ÷ 1,600.

The value of the shares has not changed as no new money has been raised by the company; instead the share price reduces and is hopefully more attractive at that lower level. (Note: it is referred to as the theoretical post bonus issue price as in practice, investor perception and the effect of demand and supply will determine what really happens).

From a statement of financial position perspective, a bonus issue has the effect of increasing share capital and reducing reserves, ie, restructuring shareholders' funds. It does not change the total shareholders' funds or total net assets. There has been no material change to the value of the company, other than the fact that more shares are in existence, so any ratio comparison needs to adjust for this.

4.3.2 Stock Splits

An alternative to a bonus issue as a way of reducing a share price is to have a stock split.

In the UK, for example, shares have a nominal value and a stock split is where each existing share is split into a greater number of shares with a lower nominal value. It is also sometimes known as a subdivision.

Example

A company with shares having a nominal value of £1 and a £10 market price have a share split whereby each ordinary £1 share is divided into four shares, each with a nominal value of 25p (£0.25). In theory, the market price of each new share should adjust to be £2.50 (£10/4).

It might appear that there is little difference between a bonus issue and a stock split, but a bonus issue does not affect the nominal value of the company's shares. A bonus issue is an additional share given to existing shareholders, while a stock split is the same share divided into two or more as per the split ratio.

In the US, a stock split might be used in the same way as a bonus issue to increase liquidity. For example, a US company might determine that its share price is too high and is deterring investors and wants to reduce the share price to increase its marketability. So, if a company had a market capitalisation of $2 billion and 20 million shares in issue, it might announce a 2:1 stock split whereby the stock holder receives two shares instead of every one share held. The value of the company does not change as a result of the stock split, so it is still valued at $2 billion, but there are now 40 million shares in issue so the share price would reduce from $100 per share to $50 per share.

4.3.3 Reverse Stock Splits

A consolidation is the reverse of a split: shares are combined or consolidated. A consolidation issue is also known as a reverse split. This is where a company decides to decrease the number of issued securities, for example, by:

- consolidating every four shares currently existing into one share of four times the nominal amount, or
- where shares are of no **par value**, replacing existing shares with a lower number of shares.

Example

If a UK company has one million shares in issue each with a nominal value of 50p (£0.50), it can simply increase the nominal value per share to £1 and reduce the number of shares in issue to 500,000.

Assuming an investor held 1,000 ordinary 50p shares which were priced at £1 per share, the theoretical effect on the share price can be seen in the following table:

Shares	No of Shares	Price	Value
Before the consolidation	1,000 ordinary 50p shares	£1.00	£1,000
After the consolidation	500 ordinary £1 shares	£2.00	£1,000

A company may undertake a reverse stock split if the share price has fallen to a low level and they wish to make their shares more marketable. For example, **National Association of Securities Dealers Automated Quotations (NASDAQ)** may delist a stock that is consistently trading below the price of $1 per share and so a company may go for a reverse stock split to maintain a higher per-share price. Some institutional investors and mutual funds also have policies against taking positions in a stock whose price is below a minimum value.

It may also be done when the company wants to raise equity capital from existing shareholders. Under company law, new shares often cannot be issued at less than their nominal value and so this can present a problem when companies need to raise new capital. A rights issue will be priced at a discount to the current share price in order to make it attractive to existing shareholders to subscribe to new capital. If the share price is too low, this may make it impractical as a sufficient discount cannot be priced in.

A company may, therefore, need to announce a consolidation in conjunction with the rights issue. The consolidation issue will raise the market price of each share so that it can then have a rights issue to raise additional capital which it will price at a discount to that figure.

Companies may also undertake a reverse stock split when they are demerging a subsidiary or making a very substantial cash repayment to shareholders to maintain the share price at previous levels.

4.4 Capital Raising Events

Once a company has a stock market listing, it can use that to raise additional funds through a capital raising event such as a rights issue, an **open offer** or a **placing**.

4.4.1 Rights issues

When a company wishes to raise further equity capital, whether to finance expansion, develop a new product or replace existing borrowings, it can make a rights issue to its existing ordinary shareholders.

A rights issue is where a company gives existing investors the right to subscribe for additional new shares at a discount to the market price at the time of announcement.

- The rights issue is accompanied by a **prospectus** which outlines the purpose of the capital-raising exercise, but does not require an advertisement of the issue to be placed in the national press.
- New shares are offered in proportion to each shareholder's existing shareholding, at a price discounted to that prevailing in the market to ensure that the issue will be fully subscribed and often to avoid the cost of underwriting the shares.
- The number of new shares issued and the price of these shares will be determined by the amount of capital to be raised. If the shares have a par value, then this price must be above the nominal value of the shares already in issue.

A key difference between a rights issue and other capital raising events is that the 'rights' represent a security in their own right, which is renounceable or transferable. In some markets, they are referred to as tradable rights, which better describes their characteristics.

The choices open to shareholders under a rights issue are as follows:

- Take up the rights in full by purchasing all of the shares offered.
- Sell the rights.
- Sell sufficient of the rights to take up the balance (an approach sometimes known as tail-swallowing).
- Take no action and allow the rights to lapse, which means that the company will sell the rights for the investor and distribute any proceeds to the investor. For the smaller shareholder not wishing to increase their shareholding in the company, this is often the most economical way to proceed.

We will use a UK example to consider what takes place during a rights issue, the effect on the share price and the options available to shareholders.

Example

ABC Holdings has 100 million shares in issue, currently trading at £4.00 each. To raise finance for expansion, it decides to offer its existing shareholders the right to buy one new share for every five previously held. This would be described as a 1 for 5 rights issue. The price of the rights share is set at a discount to the prevailing market price, at only £3.50.

The new shares issued will rank equally, or *pari passu*, with the original shares. As a result, the share price will be adjusted once the shares are traded **ex-rights (XR)** to take account of the additional capital that the company will have and the greater number of shares in issue.

The price to which the share price will fall as a result of the rights issue is called the theoretical ex-rights price.

Example

To see how this is calculated, let us assume that a company has one million shares in issue and announces a 1:5 rights issue to raise additional capital at a price of £3.50 per share:

Shares	No of Shares	Price	Value
Before the rights	1,000,000	£4.00	£4,000,000
Rights	200,000	£3.50	£700,000
After the rights	1,200,000	£3.92	£4,700,000

The table above shows the initial number of shares in issue of 1,000,000 which at the current price of £4 are valued at £4 million. Under the terms of the rights issue, investors can subscribe for one new share for every five existing shares held, so the total number of shares will be increased by 200,000 and the company will receive an additional £700,000 of capital.

The company is now theoretically worth £4.7 million, but has more shares in issue. To work out the theoretical ex-rights price, therefore, we need to divide its value by the increased number of shares in issue. The theoretical ex-rights price will, therefore, be £3.92, which is £4,700,000 divided by 1,200,000 shares. This is the theoretical price that the shares trade at once they are ex-rights, but the actual price will be determined by demand and supply and investor sentiment towards the issue.

During the period of the rights issue, the rights are known as nil-paid rights and are separately tradable and will have some value. This is known as the rights premium and the theoretical rights premium can be calculated using the above information.

Example

If the theoretical ex-rights price is £3.92 and each right gives an investor the right to subscribe for one additional share at £3.50, then the theoretical rights premium is the difference between the two: £0.42 per right. Again, the actual price will be determined by demand and supply.

Each shareholder is given choices as to how to proceed following a rights issue. For an individual holding 1,000 shares in ABC Holdings, they could:

- take up the rights by paying the £3.50 and increasing their holding in ABC Holdings to 1,200 shares.
- sell the rights on to another investor. The rights entitlement is transferable (often described as renounceable) and will have a value because it enables the purchase of a share at the discounted price of £3.50.
- as an alternative, the investor could, of course, sell just part of the rights and, with the cash raised, take up the remainder, or
- do nothing. If the investor chooses this option, the company's advisers will sell the rights at the best available price and pass on the proceeds (after charges) to the shareholder.

4.4.2 Open Offers

An open offer is a method of raising new capital that is similar to a rights issue. It is another type of secondary market offering whereby a company seeks to raise new capital.

An open offer invites shareholders to buy new shares at a price below the current market price but, unlike a rights issue, it cannot be sold and so, if the shareholder decides not to take up the entitlement, then it lapses. Open offers are made at a discount and as this leads to **dilution** in value for the non-accepting shareholder and so the listing rules in some countries limit the discount to a maximum of 10%.

For normal open offers, holders cannot apply for more than their entitlement. The issue, however, can be structured so that holders may be allowed to apply for more than their pro rata entitlement, with the possibility of being scaled back in the event of the offer being over-subscribed. It can also be structured as an open offer with compensation where any shares not taken up are sold in the market and proceeds distributed.

4.4.3 Placing

In a placing, a company simply markets the issue directly to a broker, an issuing house or other financial institution, which in turn places the shares to selected clients.

A placing is the least expensive subsequent capital raising method as the prospectus accompanying the issue is less detailed than that required for the other two methods as only a limited number of potential shareholders need be dealt with. Its drawback is that existing shareholder's ownership can be diluted and so in many markets there are restrictions on when it can be issued, the amount that can be raised and the amount of discount on the existing share price that is permitted.

4.5 Other Types of Events

There are a wide range of corporate actions. Some others that we will consider are events such as mergers and demergers, takeovers and share buybacks.

4.5.1 Mergers

Mergers are when two companies join together either all or part of their operations into a new entity. Mergers are usually described as being by mutual consent in that the two companies are often motivated by the desire to combine their operations into a single new company that they perceive will have greater prospects than is possible in isolation.

The characteristics of a merger are as follows:

- Neither company is publicly portrayed as the acquirer or acquired, although one company may be seen as dominant.
- The original companies cease to exist as corporate entities / a new holding company is created.
- Both parties participate in establishing the management structure of the combined business.
- Both companies are of sufficiently similar size that one does not dominate the other when combined.
- All or most of the consideration involves a share **swap** rather than a cash payment.

Mergers can also be motivated by the desire of one company to take over and control another. In this case, top management positions will be filled by the acquiring company. These are more usually termed takeovers or acquisitions, but will sometimes be presented as a merger so that they do not appear to be a hostile takeover.

The terms of the merger will depend on the companies involved but in principle, will involve the creation of a new company in which the shareholders of both 'old' companies will have a stake. The percentage a shareholder will have in the new company will often depend on the relative size of each of the merging companies.

As a merger is usually an agreed deal between the two parties who believe that the combined operations will be more successful, the share price of the new entity should be greater than the sum of the two parts before the merger was announced. This will depend, however, on how the merger is perceived by the market and whether the market is convinced that the better prospects are achievable.

4.5.2 Demergers

As the name suggests, a demerger is the opposite of a merger.

A demerger, which is also known as a spin-off, is a distribution by the parent company of shares in one or more of its subsidiaries to current shareholders. Thus the subsidiary company becomes an independent listed company in its own right. The shares will be issued to parent company shareholders in proportion to their current holdings, with the subsidiary becoming a separate legal entity.

A company may initiate a spin-off because of a desire to divest part of its business. As an example, Prudential (a UK insurance company) demerged its fund management business M&G Investments in

October 2019. Prudential sees its future growth coming from its operations in Asia and the US, while M&G is a UK fund management business, and therefore, no longer fits with its long term strategy. Under the terms of the demerger, a shareholder in Prudential received one share in M&G for each share in Prudential. Following the demerger, both companies have separate listings.

A demerger may also be initiated as part of a management buy-out in which management and venture capitalists seek to unlock the value hidden in the subsidiary, or because the subsidiary is so well viewed that it makes the parent company a target for a takeover.

The cost of shares in the resulting company is the original amount invested apportioned between the existing company and the newly demerged one usually based on first day dealing prices or their respective net asset values.

Example

Investor A has 5,000 ABC ordinary £1 shares acquired in 2010 at a cost of 1.00 per share. In 2019, there is a demerger of shares in XYZ Company on a 1:5 basis so investor A receives 1,000 shares in XYZ. The acquisition cost of the shares is based on first day dealing prices which were – ABC –2.70 and XYZ 1.50.

The apportionment of the acquisition cost is calculated as follows:

Original Acquisition		
Holding	Price	Acquisition Cost
5,000 ABC ords	1.00	5,000.00

First Day Dealing Prices		
Holding	Price	Acquisition Cost
5,000 ABC ords	2.70	13,500.00
1,000 XYZ ords	1.50	1,500.00
		15,000.00

Allocation of Book Cost		
Holding	Allocation	Acquisition Cost
5,000 ABC ords	2.70	4,500.00
1,000 XYZ ords	1.50	500.00
		5,000.00

4.5.3 Takeovers

A takeover is a voluntary event in which a bidding company attempts to acquire a controlling interest in another company.

If the board of the target company is favourable to the approach, then it will endorse the offer to its shareholders. This is known as a recommended takeover. A takeover can be a hostile takeover, in which the board of the target company may attempt to dissuade the shareholders from accepting the bidding company's offer. The board will issue a defence document stating why it does not agree. In the US, target companies often use poison pill rights issues to defend themselves against unwanted bidders.

In a takeover situation, shareholders would expect to be offered a premium to the share price as an incentive to give up their shares. When a takeover is rumoured or announced, the share price usually rises to a value close to the expected takeover price, and so the market capitalisation converges with the takeover value.

In exchange for shares in the target company, the bidding company will offer:

- shares, or other securities such as debt instruments, issued by the bidding company, or a mixture of shares and debt
- cash, or
- a combination of cash and securities.

If the bidding company is offering a choice of cash or new securities, it may be possible (if the offer terms allow) for the investor to elect to take an increased amount of cash for, say, 50% of their existing shareholding, and new securities for the remaining 50% as opposed to the basic offer. Such an election would be known as a mix and match decision with any election, for enhanced receipt of any element, offset by the actions of other shareholders. Such elections are subject to scale-back. For example, if all shareholders elect for the maximum cash option of a mix and match, there will be no offset for the cash distribution, as no holders had elected for enhanced stock. If one holder elected maximum stock, they would receive their desired election with their cash element being distributed pro rata on a shareholding basis to the maximum cash electors.

An exchange offer is a specific case when no cash changes hands; it is purely an exchange of shares.

In simple terms, the main stages of a takeover are as follows:

- Takeover is announced by the board of bidding company.
- The board of the target company issue a response either for or against the proposal.
- If the takeover goes ahead, the bidding company issues a formal offer to shareholders of the target company.
- Shareholders in the target company are given a specified period in which to decide whether to accept the offer.
- If more than 50% accept the offer, the bidding company gains control of the target company.
- The cash or securities offered by the bidding company are distributed to shareholders in the target company.

In practice, the process can be both drawn out and more complex than this suggests. The takeover bid may get revised a number of times, a competitor bid may be announced or there may be competition or regulatory issues that slow down or block the proposal. If an offer does go ahead, it may be conditional on a certain percentage of shareholders accepting the offer otherwise the offer may lapse.

Taking 'no action' on a takeover will, at the early stage, have the same effect as not accepting any of the offers. Many investors will adopt this approach to see how the bid progresses and whether there will be an improved bid or alternative bidder. This could, in theory, prevent the company from reaching the unconditional stage and prevent the issue going any further.

Certain types of investors can only take action in the later stages of the takeover. For example, tracker funds are under an obligation to reflect the percentages of the quoted companies that are covered within the remit of the **fund**.

If the bidding company achieves the required percentage of acceptances from the target company shareholders, it may declare the offer unconditional and those shareholders who have accepted the offer receive the proceeds or shares that are on offer.

The remaining shareholders are described as dissenting shareholders. In certain circumstances, the company may be able to undertake a compulsory acquisition of the remainder of the shares.

Following the takeover, the target company may remain as a separate legal entity, operating as a subsidiary but owned by the bidding company. Alternatively, the bidding company may integrate the company into its own legal entity.

4.5.4 Share Buybacks

Some companies have substantial cash reserves that are surplus to the strategic requirements of the company. In such cases, a company may consider returning the surplus cash to shareholders. This could be achieved by paying a special dividend, issuing redeemable shares to existing shareholders or undertaking share buybacks.

A **share buyback** is usually a positive event for shareholders. It usually involves a company buying back its own shares through the stock market or by way of a tender offer to shareholders. The repurchased shares are often absorbed into the company which has the effect of reducing the number of outstanding shares or market capitalisation. As this happens, shareholders have a relatively larger stake in the company as there are fewer shares in issue on which the company returns profits in the form of dividends.

From the issuer's perspective, a buyback is often regarded as a good use of its capital and, indeed, can create a positive opinion of the company by the markets as it is seen to be heavily investing in itself.

Buybacks have the effect of reducing the size of the assets on the statement of financial position so, naturally, return on assets increases because the return is compared to a lower capital base. Another effect is that return on equity increases for a similar reason – because there is less equity outstanding. This also means that the price/earnings ratio will decrease as there are fewer shares in issue with the same earnings.

Tender Offers

One method of undertaking a share buyback is a tender offer.

A tender offer is an offer to existing shareholders to tender or surrender their shares back to the company in return for a cash payment that is at a premium to the current market price. This is usually subject to the tendering of a minimum and maximum number of shares. A tender offer is said to be oversubscribed if, for example, the issuer has announced that it will buy back ten million shares and shareholders submit bids for 20 million shares. In such a case, the issuer has to apportion the shares that it intends to repurchase between the investors who have tendered. The offer may be based on purchasing all the shares at a single price, in which case, if the offer were oversubscribed, each investor would be able to sell 50% of their holding back to the company.

Alternatively, the tender offer might take the form of a Dutch auction. A Dutch auction has similarities to a tender offer in that the company offers to purchase its ordinary shares at an amount between two prices, generally with the price starting high and being progressively lowered until all buyers are found. In the event of a Dutch auction being oversubscribed, the company will fill its required number of shares, starting with the lowest prices accepted and working up, including the strike price elections, until it has the required amount.

Open Market Share Buybacks

An open market share buyback is an alternative to a tender offer. It is the most common share repurchase method in the US, representing almost 95% of all repurchases.

A firm announces that it will repurchase some shares in the open market from time to time, as market conditions dictate, and maintains the option of deciding whether, when, and how much to repurchase. Unlike tender offers, which have a fixed timetable, open market repurchases can span months or even years.

Before the company can take this action, it may have to seek shareholder approval in principle at an AGM or extraordinary general meeting. Still, once it has this approval it has a great deal of flexibility. However, as part of the 'approval in principle' process there may be daily buyback limits that restrict the amount of stock that can be bought over a particular time interval, to prevent price **volatility**. The price at which the shares are repurchased will be the market price on the day of the transaction.

From the issuer's point of view, the benefits of the open market method as compared to the tender and Dutch auction method transactions are as follows:

- Open market programmes are very easy to set up. The issuer can just undertake trades in the market as and when it sees fit.
- Consequently, there is no need to set up a special programme with, for example, deadlines for investor responses.

From the point of view of the investor, an open market transaction is just the same as any other sale transaction; it is not processed as a corporate action as such.

4.6 Impact of Corporate Actions

When a company announces a corporate action, it will describe the rationale for the event in its communication of the event and in the corporate action documentation.

Where a company is raising capital, its rationale will be examined closely. Essentially, investors are being asked to **invest** further funds and will therefore analyse whether committing further funds is warranted, given the company's prospects. If a company wishes to raise additional capital, consequently, it will need to provide a compelling case that investors are prepared to back.

Apart from the rationale for a corporate action and the investor's reaction to the proposal, a further key consideration is whether the issue will dilute earnings.

Analysts look at EPS and other key ratios to determine the performance of a company and establish trends. EPS is one of the key measures of the profitability of a company and the quality of a company's earnings and its ability to grow them consistently are probably the most important factors affecting the share price.

Any corporate action that will affect reported earnings is, therefore, analysed quite closely.

A capital raising event will raise further capital for the company but analysts will want to know whether the revenue that the additional capital will generate will add positively to the company's earnings stream or negatively. If it will reduce average earnings as measured by EPS, then this negative effect is described as being earnings dilutive. The market's view on whether to support the corporate action will be determined by the results of this analysis.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. The BIS Governance Principles are directed at which sector?
   Answer reference: Section 1.2.2

2. The Sarbanes-Oxley Act was introduced to address what types of risk posed by poor corporate governance?
   Answer reference: Section 1.2.3

3. What factors influence the choice of a rules-based or principles-based approach to corporate governance?
   Answer reference: Section 1.4.1

4. Explain what the accruals basis is.
   Answer reference: Section 2.2.1

5. A company has the following:

   - Total assets of $100m
   - Current liabilities of $35m
   - Short term borrowings of $5m
   - Profit before interest and tax of $8m

   What is its return on capital employed?
   Answer reference: Section 3.1.4

6. If a share price falls, which of the following is true?

   a. P/E ratio rises; dividend yield falls
   b. P/E ratio falls; dividend yield rises
   c. P/E ratio rises; dividend yield rises
   d. P/E ratio falls; dividend yield falls

   Answer reference: Sections 3.6.4

7. In contrasting the price/earnings ratios of a long-established utility company and a relatively new technology company, which would be expected to have the higher ratio and why would you expect this to be the case?
   Answer reference: Section 3.6.4

8. A company has declared an interim dividend of $0.10 per share with a scrip dividend option based on an average closing market price of $9.50. If an investor has elected to take scrip dividends on their holding of 10,000 shares, how many shares would they receive?
   Answer reference: Section 4.2.2

9. A UK company has announced a 1:3 bonus issue. What would the theoretical ex-bonus price be if the share price before the bonus issue was £6.80?
Answer reference: Section 4.3.1

10. A UK company has announced a 1:4 rights issue at £1.50 when the shares are priced at £6. If an investor holds 10,000 shares and wants to sell the rights, what amount could they be sold for assuming they are sold at the theoretical ex-rights premium?
Answer reference: Section 4.4.1

Chapter Two

Taxation, Trusts and Foundations

1.	**Residence and Domicile**	**113**
2.	**Personal Taxation**	**119**
3.	**Transaction Taxes**	**133**
4.	**Business Taxation**	**135**
5.	**Trusts and Foundations**	**136**
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7.	**Tax Planning**	**152**

This syllabus area will provide approximately 10 of the 80 examination questions

A wealth manager needs to be fully aware of the tax rules in their own country and how these will affect their clients. However, it is also important to be particularly careful when they are dealing with a client who is resident overseas or has significant overseas income. We will therefore consider what is involved in the complex area of **domicile** and residency first, as a knowledge of this is essential when looking at taxation.

Following this, we look at the characteristics of **trusts** and foundations and how these are used for wealthy clients.

Finally, we will examine tax planning and acceptable forms of tax planning. (Please note that tax rules change regularly, and as a result, some of the information in the following sections may be superseded.)

1. Residence and Domicile

Residence and domicile are concepts that are central to systems of taxation as they determine who is liable to tax and, importantly, what assets or income may be liable.

1.1 Domicile

Learning Objective

2.2.1 Understand the impact of rules on residency and domicile, and the implications for income tax and capital gains tax

Domicile is the country that a person treats as their permanent home, or lives in and has a substantial connection with.

1.1.1 Types of Domicile

Every person must have a domicile, and it is not possible at any time to have more than one domicile. There are three types of domicile: domicile of origin, domicile of choice and domicile of dependency.

Types of Domicile	
Domicile of origin	• This is the domicile that every person acquires at birth. • A child born during the lifetime of its father has its domicile of origin in the country in which the father is domiciled at the time of the birth. • If a child is born after its father's death, then it has a domicile of origin in the country where its mother is domiciled at the time of the birth.
Domicile of choice	• A domicile of choice is acquired by a person residing in a country with the intention of continuing to do so permanently or indefinitely. • Any circumstances throwing light on the question may be considered in determining whether a domicile of choice has been acquired. • Where a person abandons their domicile of choice in a particular country, but does not acquire a new domicile elsewhere, their domicile of origin will revive and continue to govern their legal position until they acquire a new domicile of choice or of dependency.
Domicile of dependency	• A domicile of dependency arises in respect of children, married women, and persons with mental disorders. • Their domicile will generally be the same as, and will change (if at all) in accordance with, the domicile of the person on whom they are deemed to be legally dependent. • So, the domicile of a child of married parents during their minority will depend on the domicile of the father during the father's lifetime and (in general) on that of the mother after the father's death. • The domicile of a child of unmarried parents during their minority will (usually) depend on their mother's domicile. • The domicile of a married woman is the same as, and changes with, that of her husband in some countries.

1.1.2 Nationality and Habitual Residence

Domicile as a connecting factor that links a person to a legal system commands support in the law of a number of countries, primarily those where the common law prevails. There are, however, other connecting factors that command considerable support in many countries. Of these, the most important are nationality and habitual residence.

Nationality and Habitual Residence	
Nationality	• Nationality represents a person's political status, whereby they owe allegiance to some particular country. Apart from cases of naturalisation, it depends essentially on the place of birth of that person or on their parentage. • Its advantage is that a person's nationality is normally an easy matter to determine but can present difficulties in countries such as the US where state law applies or in case of dual nationality.

Nationality and Habitual Residence	
Habitual Residence	• Habitual residence is becoming increasingly recognised as it is a more straightforward concept to establish and avoids discrimination since it treats everyone in exactly the same manner. • Its drawback, however, is it may be difficult to determine where a person has their habitual residence if they are constantly on the move and have no real or continuing connection with any of the countries through which they pass.

Accordingly, the link that connects a person to a particular system of law may be their domicile, their habitual residence or their nationality.

1.1.3 Importance of Domicile

Domicile and its related concepts are important as they help to determine:

- Who has a right to inherit assets on death.
- The form of any will or testamentary dispositions that are permitted.
- Who inherits if there is no will, as some countries such as France have very rigid rules on who can inherit.
- Domicile may also affect how much estate tax is payable and where.

Many countries have **inheritance tax (IHT)** laws that are designed to make it difficult for an individual to move abroad and avoid paying IHT.

- If it cannot be successfully proved that the person has changed their domicile, the tax authorities may claim that the person is deemed to be domiciled in that country and is liable to tax on their worldwide assets.
- If, on the other hand, a person dies domiciled outside that country, then estate taxes will only be chargeable on death on such assets as are in that country.
- It follows that if a person is likely to be domiciled outside a country then they should try to ensure that their assets in that country do not exceed the threshold at which an estate tax is payable.

Changing domicile, however, is not a straightforward matter. To establish a domicile of choice an individual must sever most or all ties with their domicile of origin and settle in the territory in which they wish to establish a domicile, with a clear intention of making their home there on a permanent basis. It is up to the individual to prove that this has occurred and until this is proved, it is assumed that the domicile of origin is retained.

There are a number of factors to which an individual can point to show that an individual has established a domicile of choice, but there are two overriding requirements:

- A genuine wish to adopt the new territory as their only or main home either permanently, or at least indefinitely, with no intention of establishing their main home elsewhere.
- A physical presence in that territory.

If the first condition is established, then a long period of residence is not necessary to establish the new domicile of choice. Conversely, if it is absent, a period of continuous residence, for however long, will not be sufficient.

1.1.4 Domicile and Succession

Where a client holds assets in multiple countries, it is important that they take specialist legal advice from lawyers in that territory.

This is especially the case if they own land abroad as succession to immovable property such as land is governed by the law of the country or state where the land is situated. This law may contain strict provisions as to whether a person is obliged under their will to leave the land to particular blood relatives.

A client should look to have one will that deals with their worldwide assets other than property in other countries where they own land and have made separate wills. The main advantages of separate wills are:

- Each can be dealt with independently in the jurisdiction concerned.
- A will of immovable property can take into account the local law.
- Each can be drafted to take account of the local tax position and may avoid unnecessary taxation resulting from a single will which may be tax effective in one country, but not in another.
- Each can be drafted to include administrative powers and provisions which are appropriate to the territory concerned and which can be readily interpreted according to the local law.
- Each can clearly define the responsibilities of each set of executors, for example, in relation to payment of particular taxes and expenses.

1.2 Residency

Each country has its own rules which determine an individual's liability to tax either on income, gains or on assets liable to IHT or a wealth tax.

So, when a transaction takes place which may be subject to tax in more than one country, care is needed to establish which country's tax systems are involved, the status of the client, the type of income or asset involved and the nature of the transaction. Optimal tax planning may involve consideration of the impact of different countries' tax systems and their interaction if double taxation is to be avoided.

1.2.1 Worldwide and Territorial Tax Systems

Most countries' tax systems can be loosely categorised as either a worldwide or territorial-based system of taxation.

- Under a worldwide system of taxation, residents of that country are taxed on their worldwide income and capital gains irrespective of where the income or gains arise. For example, the US has a worldwide-based system of taxation as do the UK, Australia, Germany, Italy and Japan.
- Under a territorial system of taxation, residents are taxed only on income and capital gains arising in that country and arising outside of that country are not liable to tax. Countries that have territorial tax systems include Malaysisa and Hong Kong.

Some countries that adopt the territorial system, however, extend the tax base of residents to include overseas income and gains but only if such income or gain is remitted to the country of residence.

While there are variations on the above three systems, most countries' tax systems fall into one of these types.

1.2.2 Residency

Irrespective of the type of tax system in place, it is usual for taxes to be levied on the residents of that particular country.

Definitions of residency vary from state to state. For individuals, physical residency is the most important factor but other factors such as, property ownership or the availability of accommodation can also be taken into account.

Many countries assess physical residency by the number of days that an individual spends in the country and the regularity of their visits. For example, in the UK, there is a statutory residence test to determine whether an individual is resident and so liable to UK taxes.

Non-UK Resident	You are not resident in the UK for a tax year if: • you were resident in the UK in one or more of the previous three tax years and you are present in the UK for fewer than 16 days in the current tax year, or • you were not resident in the UK in all of the previous three tax years and you are present in the UK for fewer than 46 days in the current tax year, or • you carry out what is effectively full-time work (averaging 35 hours per week) overseas.

UK Resident	You will be resident in the UK for the tax year if: • you are present in the UK for 183 days or more in a tax year, or • you have a UK home for a period of 91 consecutive days or more (of which at least 30 days must fall in the tax year), you spend at least 30 days in that home in the relevant tax year, and during this 91-day period you have no overseas home, or have one or more homes overseas and are present in each of these overseas homes for less than 30 days during the tax year in question, or • you carry out what is effectively full-time work in the UK.

The complexity of the rules surrounding residency means that individuals who will not be resident in a country for a complete tax year, need to exercise particular care in understanding the regulations and ensuring their visits do not exceed the maximum time permitted.

Some countries, such as the US, adopt a citizenship test to determine liability to tax. The US extends its tax system to tax the income and gains of its citizens wherever they are resident. So, while a US citizen may no longer be resident in the US, they remain in principle liable to US taxes on their worldwide income and capital gains.

1.2.3 Double Taxation Treaties

Learning Objective

2.2.2 Understand the use of double taxation treaties

2.2.3 Understand how withholding tax is applied based on: residency; product; tax regime (at source or reclaimable); beneficiary

Double taxation treaties are conventions between two countries that aim to eliminate the double taxation of income or gains arising in one territory and paid to residents of another territory.

They work by dividing the tax rights each country claims by its domestic laws over the same income and gains. They detail who will be treated as a resident of that country and that overseas persons will be liable only for local source income.

Simply put, double taxation treaties set out how and who will tax income and gains.

Double taxation treaties between countries are usually based on the OECD (Organisation for Economic Co-operation and Development) Model Tax Convention. The first OECD Model Tax Convention was issued in 1958 and since then the tax treaty network has expanded worldwide. There are now over 1,300 Double Taxation Conventions in existence worldwide and the UK has one of the largest networks with more than 100.

The treaties detail how different types of income will be dealt with.

Double Tax Treaties	
Dividends	• Many countries levy a **withholding tax** on dividend distributions, but there are some very notable exceptions where profits have been subject to primary tax such as Australia, Singapore, and the UK. • Also, capital distributions may not attract withholding tax, as for example liquidation distributions in the US. • Article 10 of the Convention generally limits the withholding tax that may be charged provided that the recipient is beneficially entitled to the dividends.
Interest	• Interest payments to non-residents may also attract a local withholding tax, which is generally reduced according to treaties to 10% under the Model Treaty, but often to nil. • Again, the requirement for the recipient to be the **beneficial owner** is relevant sometimes.

Where withholding tax is deducted on an overseas dividend before payment, the client is able to offset the withholding tax against their domestic liabilities.

If the client is not liable to tax, then a tax reclaim in the country that imposed the withholding tax is needed which will require proof of beneficial ownership. They may also require submission of a form that has to be certified by the tax authorities of the country in which they are resident to confirm their eligibility for tax relief.

Now we have reviewed what constitutes domicile and residency, we can look at aspects of various taxes.

2. Personal Taxation

Learning Objective

2.1.2 Understand direct and indirect taxes as they may apply to individuals: tax on income; tax on capital gains; estate tax; transaction taxes; tax on sales

The types of tax that a client may incur can be usefully categorised into direct and indirect taxes.

- **Direct taxes** are where the impact and incidence of the tax are on one person who bears the tax burden which is paid direct to a government and take various forms such as **income tax**, **capital gains tax (CGT)** and estate / inheritance taxes.
- **Indirect taxes** are charged by the providers of goods and services and are collected by an entity in the supply chain and paid to the government. These taxes are paid by the consumer as part of the purchase price of a good or service who effectively pay them indirectly as they are part of the purchase price. Indirect taxes include VAT, sales taxes and import duties. Some indirect taxes are also referred to as consumption taxes as the consumer only pays the tax when they 'consume' the goods or services.

In the following sections, we will consider income tax, CGT, estate / inheritance taxes and transaction taxes.

2.1 Tax on Income

Tax rules vary from country to country but there are some general points that can be brought out in order to identify the key features of how income is taxed.

- The individuals who are liable to pay income tax.
- The income that is subject to tax.
- The deductions and allowances available to reduce the liability to tax.
- How tax is charged.

2.1.1 Tax Residency

The first concept to consider is the residence of the individual, which will determine whether they are liable to tax and, if so, on what sources of income. As we saw earlier, how residence is determined depends on the tax laws of a particular country and can often be quite complex. To highlight how this operates, we will look in outline at how residency is determined in a selection of countries.

Tax Residency	
Australia	• Liability to tax depends on whether an individual is classed as an Australian resident, a non-resident or a temporary resident. • An Australian resident is liable to tax on their worldwide income, although they may be entitled to an offset if they have paid foreign tax in another country. A resident is defined as a person who resides in Australia according to the ordinary meaning of the word and who meets any of the following conditions – they are domiciled in Australia; they are present in Australia for more than half of the tax year; or they are an active member of a Commonwealth superannuation scheme. • A non-resident is anyone who does not satisfy any of the above tests. They are subject to tax on Australian source income only. • A temporary resident is someone who is working in Australia under a temporary resident visa. They are generally exempt from Australian tax on foreign investment income, but not foreign employment income.
China	• China residents are subject to tax on their worldwide income. Residents of China are individuals who have their domicile in China or if not domiciled, are resident in China for one full year. • Non-domiciled individuals who have resided in China for more than five consecutive years are subject to individual income tax on their worldwide income. • Non-residents are subject to tax on their China-source income only.

Tax Residency	
Germany	• An individual is subject to tax on their worldwide income if they are domiciled in Germany or have a customary place of abode in Germany. • They are also liable if they are present in Germany for an uninterrupted period of six months. • Individuals who are not resident in Germany are generally subject to tax on income derived from German sources only.
Japan	• In Japan, the tax liability of a person is determined by their residence status. • A permanent resident is an individual who is a Japanese national or a non-Japanese national who has been present in Japan for at least five years within the past ten years. They are subject to income tax on their worldwide income, regardless of source. • A non-permanent resident is an individual of non-Japanese nationality who has not resided or maintained their domicile in Japan for five years or more within the past ten years. They are subject to tax on income earned in Japan plus any non-Japanese source income that is paid in or remitted to Japan. • A non-resident is an individual who does not meet the requirements for qualification as a permanent resident or a non-permanent resident. They are subject to tax on their Japanese-source income only.
UK	• The taxation of individuals in the UK is determined by their residence and domicile status. • An individual classed a UK resident is liable to UK tax on their worldwide income. • For an individual who is neither resident, nor non-resident, a 'sufficient ties test' applies. This considers factors such as the amount of time spent in the country. The 'sufficient ties' test is met if the individual does not meet any of the automatic UK tests or the automatic overseas tests but has 'sufficient UK ties' in a year to make them UK resident. The possible ties are set out in the legislation. They are the family tie, the accommodation tie, the work tie, the 90-day tie (ie, 90 days or more spent in the UK in either of the previous two tax years), and the country tie (ie, the UK is the country in which an individual spends most of their time). • Non-residents are subject to tax on their UK-source income only.
US	• US citizens and resident aliens are subject to tax on their worldwide income, regardless of source. • A resident alien is a foreign national who is a lawful permanent resident or whose physical presence in the US meets the substantial presence test – in very general terms, they are present for at least 31 days during the current year or have been present for at least 183 days during a consecutive three-year period. • A non-resident alien is subject to income tax if they are engaged in a trade or business in the US; if they are not involved in business, they are liable at a **flat rate** on US-source income.

As you can see from these examples, each contains similar considerations:

- Residency drives whether someone is liable to tax and domicile may be used as one of the tests to determine residency.
- An individual may be treated as resident if they are in the country for a period of time.
- Each of the examples above operate a worldwide tax system for individuals treated as resident so that they are liable to tax on their worldwide income.
- Non-residents are generally not liable to tax except on income arising in that country or remitted to that country.

2.1.2 Income Subject to Tax

In most countries, not all income received by an individual is liable to tax. Some income is called 'taxable' income as tax is due on this, while other sources of income may be described as 'not taxable', 'exempt' or 'tax free'. The label used to describe different types of income can be important as it may determine whether it needs to be reported to the tax authorities and may affect how liability to tax is calculated.

Examples of taxable income include:

- Work related income, such as pay, bonuses, commission and benefits or profits from self-employment.
- Pensions including an occupational pension, an **annuity** or the state pension.
- Investment income such as – interest on savings, bond interest and dividends.
- Property income such as from renting a property, holiday home or room.
- Other income such as – social security payments, gains on life assurance policies, income from trusts or foundations and profits from the sale of some personal effects.

Most sources of income are taxable, but a small number may be considered as non-taxable. An example of income that is not liable to tax is certain welfare benefits.

In some countries, income needs to be allocated to specific categories as the tax treatment may differ depending upon the category under which it falls. For example, the position in a number of countries in very general terms is:

- **Germany** – German income tax distinguishes between income from employment, self-employment, investment, business and real assets.
- **Japan** – income is classed as employment income, self-employment and business income, and investment income.
- **UK** – income is classed as employment income, savings income or dividend income.
- **US** – in general terms, income is segregated between earned income, investment income and passive income (this is generally income from traditional tax shelter investments including real assets).

2.1.3 Tax Treatment of Dividends and Interest

The tax treatment of dividends warrants its own review given the nature of wealth management. Before we do so, we need to look at certain terms that may be seen.

The term 'franked income' is often encountered in connection with the taxation of dividends. Franked dividends are paid from a company's profits that have been taxed and in certain countries this can mean that the tax treatment is different. An individual receiving such a dividend is regarded as receiving a net dividend and this may need grossing up. Very simply, a gross payment is one that is made without any tax being deducted and a net payment is one that has had tax deducted before payment.

Grossing up involves calculating the gross amount of the dividend before deduction of corporate tax. So, for example, if corporate tax is at 20% and an individual receives a net dividend of 80 then the gross amount is 100 – the gross dividend of 100 less tax at 20% equals 80. Grossing up simply involves converting a net return into a gross one, so that any tax liability, allowance or refund can be calculated. For example, if investment income is paid net of tax at 20%, then the net amount represents 80% of the gross, and to find out the gross amount – simply divide by 80 and multiply by 100.

Tax Treatment of Dividends	
Australia	• Franked dividends paid by Australian corporations are grossed up for the underlying corporate taxes paid. • Shareholders may claim the underlying corporate tax as a credit in their personal tax return. Whether additional tax must be paid on the franked dividends by a shareholder depends on the individual's marginal tax rate. Under certain circumstances, excess credits may be refunded.
China	• Dividend income is generally taxed at 20% unless otherwise provided for in the applicable income tax treaty. Dividend income derived from shares traded on the Shanghai, Shenzhen, and Beijing Stock Exchanges are entitled to 50% or 100% tax reduction, depending on the length of holding.
Germany	• Dividend income is subject to a flat tax rate of 25% plus 5.5% solidarity surcharge (in total 26.375%, plus church tax if applicable), which is basically withheld at source. Related expenses cannot be deducted. Dividend income qualifies for the annual investor's allowance of EUR 1,000 (previously EUR 801) per taxpayer for the total of all financial investment income. This amount is doubled in the case of married taxpayers filing jointly. • In general, investment income taxed at source does not have to be declared in the income tax return.
Japan	• In principle, dividends are taxed at graduated rates after being aggregated with other sources of income. However, dividends paid by corporations listed on a stock exchange can optionally be taxed separately from other sources of income at a flat rate of 20.315% (15.315% national tax + 5% local inhabitant's tax). • A taxpayer does not need to report the dividends as income on the tax return if the dividends are from listed shares and are received through a Japanese paying agent (a securities company or trust company).

Tax Treatment of Dividends	
UK	• Dividends are taxable at rates that depend on the tax position of the individual with three bands of 8.75%, 33.75% and 39.35% (since 6 April 2022). A dividend allowance means that individuals may receive dividend income of £500 (for the 2026/26 tax year) without incurring any income tax liability.
US	• Dividends received by individuals from domestic corporations and 'qualified foreign corporations' are taxed at the same rates as those applicable to net capital gains. • To qualify for the 15% (or 0% or 20%) tax rate, the shareholder must hold a share of stock for more than 60 days during the 120-day period beginning 60 days before the ex-dividend date. Other dividends are taxed at ordinary rates.

In addition, a wealth manager should be aware of the treatment of accrued interest on a bond purchase or sale. Bonds are quoted clean but settled **dirty**, which means that accrued interest is added to the contract afterwards. The interest accrued up to the date of settlement of the sale is treated as due to the seller. It is, therefore, added to the cost paid by the purchaser and paid to the seller in addition to the proceeds of sale.

Such payments are usually regarded as interest and are liable to income tax or can be claimed as a deduction. If the interest was not treated as income, then an investor could reduce their taxable income by appropriately timed sales, a process known as 'bond washing', a loophole which tax authorities closed some years ago.

Another concept of which an investment manager should be aware is the treatment of **zero-coupon bonds (ZCBs)** such as **STRIPS**. These carry no interest and instead are issued or bought at a discount to their eventual **maturity** value. Tax authorities, such as those in the UK and US, have rules to ensure that these do not escape a charge to income tax and will usually revalue the holding at the end of the tax year and treat any gain or loss arising over the tax year as income.

2.1.4 Calculating Tax Due

Liability to tax is usually calculated on a tax year or fiscal year, and taxpayers are required to file returns with the tax authority by certain deadlines. This can be either a calendar year or some other arbitrary date. For example:

- In the US, a tax year runs from 1 January to 31 December and taxpayers are required to file federal tax returns by 15 April with the Internal Revenue Service (IRS).
- In the UK, the tax year runs from 6 April to 5 April and taxpayers are required to submit tax returns with Her Majesty's Revenue and Customs (HMRC). There are different dates for submission depending on whether the return is submitted in paper or electronically.

'Gross income' is a term that is used to describe all of the income that an individual receives that is not explicitly exempt from tax. Taxable income is an individual's gross income less the deductions that can be subtracted. It may also be known by other names such as adjusted gross income as in the US.

The tax system in most countries permits taxable individuals to reduce their gross income by certain expenses or deductions. Examples include:

- Expenses incurred in business or property rental are usually deductible from gross income in arriving at the profit that is liable to tax.
- Another common example is often contributions to qualifying pension arrangements.
- Travel and subsistence costs when an employee works at a temporary workplace.
- Professional subscriptions.

Tax systems also usually give individuals a deduction or allowance that they can set against their taxable income before tax is calculated. Examples include:

- In the US, the IRS offers the option to claim the standard deduction or a list of itemised deductions. Itemised deductions include contributions to individual retirement accounts, interest paid on mortgages, some medical expenses and a range of other expenses. The standard deduction is a set amount that each taxpayer can claim if they do not have enough itemised deductions to claim and differs depending upon whether it is for a single person, a married couple filing joint returns or a married taxpayer filing a separate return.
- This deduction may be known by other names such as a personal allowance in the UK which is a flat rate amount that a taxpayer can receive before becoming liable to tax.
- Alternatively, the first band of chargeable income may be taxable at 0% effectively giving a tax-free threshold such as in Australia.

Income tax generally is calculated as taxable income multiplied by the applicable tax rate. The tax rate may increase as taxable income increases which is referred to as graduated or progressive rates. Examples of the tax rates charged on taxable income in 2025 in certain countries are shown in the following table:

Tax Rates			
	Band		Tax Rate
Australia	0	18,200	0%
	18,201	45,000	19%
	45,001	120,000	32.5%
	135,001	180,000	37%
	Above 190,001		45%
UK	0	12,570	0%
	12,571	50,270	20%
	50,271	125,140	40%
	Above 125,140		45%

Tax Rates			
US (Single individual)	0	11,600	10%
	11,601	47,150	12%
	47,151	100,525	22%
	100,526	191,950	24%
	191,951	243,725	32%
	243,726	609,350	35%
	Above 609,351		37%

* All income is taxable if a taxpayer has income in excess of £125,140.

Most jurisdictions require self-assessment of the tax and require payers of some types of income to withhold tax from those payments. For example, income tax on employment income is usually deducted by the employer under a withholding or pay-as-you-earn system. For some individuals, this may result in not all the tax due being collected and so the individual will need to calculate the outstanding tax and make payment.

Self-assessment means the taxpayer must make a computation of tax and submit it to the tax authorities, often using the software provided. Advance payments of tax by taxpayers may be required.

2.1.5 Key Features of Income Tax

Despite the fact that income tax regimes will vary from country to country, there are some common features that can be observed:

- Understanding how individuals are treated for tax residency purposes is essential when dealing with clients who may be from overseas or have complex residency issues.
- The types of income that are regarded as taxable include income from employment, investment income, property income, and business income.
- Most sources of income are taxable with some exceptions.
- Income is usually grouped into types and the tax treatment may vary for each type of income.
- Deductions and allowances are usually available to reduce the amount of income subject to tax.
- Tax rates on taxable income are often banded using a progressive system.

2.2 Tax on Capital Gains

Capital gains arising on the realisation of assets may be subject to income tax or a specific capital gains tax.

An investment manager should ensure they have an understanding of the availability of any accounts or schemes that offer tax advantages, whereby assets held within such a wrapper are free of capital gains tax, eg, pension plans, savings wrappers and the special treatment of some **venture capital** investments. These may direct that certain investments are held in such accounts because of their tax efficiency.

Where an asset is liable to tax on disposal, some standard features include:

- the types of assets which are liable to tax on realisation
- the length of time for which an asset is held may dictate how any gain is treated
- the availability of losses to offset against capital gains, and
- the rate of tax charged on disposals.

The types of asset that may be subject to either income tax or capital gains tax on realisation will vary from country to country as will those types of assets that are regarded as exempt. While this will vary, common features are that gains made on equities are chargeable while there are usually exemptions for gains on government stocks and an individual's principal home. Understanding which are chargeable and which are not may have a material impact on the choice of assets that are invested in.

Examples of some taxable assets and exempt assets for a selection of countries are shown in the following table:

Taxable Assets	
Australia	Taxable Australian property (TAP) includes: • Real (tangible) assets. • Shares, mutual funds and cryptocurrencies. • Leases, goodwill, licences, foreign currency and contractual rights. • Collectables and personal assets above a certain value. • Exempt assets include the following: ◦ Main residence. ◦ Cars, motorcycles and personal assets below a certain value. ◦ Venture capital investments. ◦ Any asset acquired before 20 September 1985.
UK	Chargeable assets include: • Real (tangible) assets. • Shares and mutual funds. • Foreign currency unless for personal use. • Exempt assets include the following: ◦ Main residence. ◦ UK gilts and certain **corporate bonds**. ◦ Some venture capital investments.
US	Taxable assets include: • Real (tangible) assets • Shares and mutual funds. • Personal assets, art and stamp collections. • Exempt assets include the following: ◦ Business assets, copyright and patents. ◦ Real assets gains up to a limit on a principal residence.

There may also be time periods that affect the amount of taxable gain. Examples include the following:

- **Australia** – assets are held for longer than 12 months and only 50% of the capital gain resulting from disposal is subject to tax.
- **UK** – certain venture capital type investments may be exempt from tax, but only if held for specific time periods.
- **US** – the first $250,000 of gains on the disposal of an individual's principal residence are exempt as long as the seller has owned and lived in the home for two years or more.

Losses that have been made on investments are typically offset against any gains in the same tax year and any unutilised losses can be carried forward to subsequent years.

- **Australia** – capital losses in excess of current year capital gains (before the 50% discount is applied, if applicable) are not deductible against other income, but may be carried forward to be offset against future capital gains.
- **UK** – capital losses can be automatically deducted from capital gains in the same year. Any allowable unused capital losses may be carried forward indefinitely to relieve future gains.
- **US** – capital losses are fully deductible against capital gains. However, net capital losses are deductible against other income only up to an annual limit of US$3,000. Unused capital losses may be carried forward indefinitely.

The adviser should also be aware of how gains are calculated and the various exemptions and allowances that are available and whether there is different treatment for short- versus long-term gains. Examples of liability to income tax or CGT include:

- **Australia** – residents are taxable on their worldwide income which includes the gains realised on the disposal of capital assets. Any gains are added to taxable income and taxed at the investor's rate of tax for that band.
- **UK** – an individual who is resident and domiciled in the UK is taxed on gains arising on disposals of assets located anywhere in the world. Gains above an annual allowance are subject to a separate capital gains tax charge which varies according to the type of asset and the tax position of the investor.
- **US** – short-term capital gains are taxed at the investor's ordinary income tax rate and are defined as investments held for a year or less before being sold. Long-term capital gains, on dispositions of assets held for more than one year, are taxed at a lower rate of 0%, 15% or 20%.

The key features of the liability for tax on capital gains include:

- A capital gain occurs when the selling price of an asset is more than its purchase price.
- For tax purposes, a profit is not 'realised' until the security that has appreciated is sold.
- There may be different tax rates or allowances for assets held for longer periods.
- Gains may be chargeable to income tax or separate rates of capital gains tax.
- Losses can usually be carried forward to set off against gains in future years.

2.3 Estate Taxes

In many countries, tax is imposed on the assets that someone owns and the tax due may arise during their lifetime or on death. These types of taxes go by various names such as death duties, estate taxes, IHT, gifts tax and a wealth tax. These may be separate taxes or combined into one charge.

Tax rules vary from country to country so to bring out some of the key features, we will consider how estate taxes operate in a selection of countries. Tax rules are especially complex so we will focus on the key characteristics only.

2.3.1 Australia

Australia does not have inheritance tax, gift tax, or a wealth tax but in some circumstances an income tax liability can arise upon death.

The scenarios when this may arise are as follows:

- Asset transfers on death to a charity, superfund or foreign resident can have CGT implications.
- An immediate CGT liability can arise when a discretionary trust deed provides that the trust is to vest on a specific date or on the death of the specified individual (often the parents).
- When benefits in an Australian superannuation fund are paid to non-dependants on death, a tax charge is payable on the taxable component.
- Earnings in a foreign superannuation or retirement fund that have accumulated since the member became an Australian resident may be taxable on payment to nominated beneficiaries.

2.3.2 China

Although China has issued draft rules on IHT, at the present time, it does not have an IHT or gift tax.

From an estate and succession perspective, the transfer of real assets or land-use rights may be subject to individual income tax, VAT, deed tax and land appreciation tax.

- A transfer by inheritance or gift is exempt if it is to lineal dependants (ie, spouse, children, parents, grandparents, grandchildren and siblings), to dependants, to statutory heirs on death to a spouse on divorce.
- Any other transfer is liable to individual income tax on the value of the asset transferred and is also liable to VAT and land appreciation tax.
- China levies a deed tax on non-statutory successors who acquire real assets or land-use rights by virtue of inheritance or gift. However, inheritance by statutory successors is exempt from the deed tax. Statutory successors include spouse, children, parents, siblings, paternal grandparents and maternal grandparents.

In general, China exercises tax jurisdiction over the transfer of real assets or land-use rights located in the territory of mainland China regardless of the holder's domicile or residency status. Individuals who are domiciled in China and non-domiciled individuals who have resided in China for more than six consecutive years may be liable for individual income tax on the gain arising from the transfer of real assets located outside China.

2.3.3 Germany

Estate taxes in Europe are not harmonised and so will vary from one country to another. As there is no one system in place throughout Europe, we will look at how these operate in Europe's largest economy, Germany. Germany has a unified inheritance and gifts tax which is imposed on any transfer of property at death or by gift. Any transfer of worldwide property either at death or by gift is generally subject to taxation if either the donor or the donee is deemed resident in Germany for tax purposes. Non-resident individuals are liable on the transfer of property that is regarded as being situated in Germany.

The tax due is based on the value of the asset less any exemptions and reliefs and the tax rate depends on which tax class the donee falls into. Within each of the tax classes, the rate of tax due rises with the value of the acquisition.

2.3.4 Japan

Japan operates both IHT and a gift tax. Japan's IHT is imposed on an individual who acquires property by inheritance and the gift tax is imposed on an individual who acquires properties by gift.

IHT is imposed on the aggregate value of all properties acquired by inheritance or bequest. However, it is the individual beneficiaries that are taxed not the estate. The rate of IHT increases progressively with the value inherited and there is a surcharge on bequests received by someone who is not the deceased person's spouse, parents or children.

Gift tax is imposed on individuals who acquire property by gift during the lifetime of the donor. As with inheritance tax, the rate of tax increases progressively, but the bands increase more quickly and there are lower rates for lineal ascendants or descendants compared to others.

There is also a real asset transfer tax which is payable on the transfer of ownership of real property.

An individual who is domiciled in Japan is liable for IHT or gift tax regardless of their nationality. Where an individual has Japanese nationality, but is not domiciled in Japan at the time of the acquisition, they are still liable if they have been domiciled in Japan at any time within the previous ten years. An individual without Japanese nationality who lives temporarily in Japan is subject to IHT or gift tax only on properties located in Japan.

2.3.5 Singapore

Estate tax was abolished in Singapore in 2008 and the country does not impose IHT, transfer duty or wealth taxes.

A liability to **stamp duty** may, however, arise in certain circumstances where an asset is transferred or subject to a gift.

- **Inheritance** – a fixed stamp duty applies if a property is distributed in accordance with the individual's will, the Intestate Succession Act or the Muslim Law of Inheritance. If the distribution is not in accordance with one of these three, full stamp duty is chargeable.

- For **residential property** transferred on death, stamp duty can become payable if a sale of the property takes place within three years of it being acquired by the deceased.
- **Gifts** – documents transferring assets by way of gift are liable to stamp duty as if it were a sale. The stamp duty is charged as a percentage on the higher of the purchase price or value of the asset.

Residency and domicile do not impact the stamp duty liability.

2.3.6 UK

The UK's IHT is a combination of estate and gift tax. This tax is chargeable on the value after exemptions of someone's estate when they die and on certain gifts during their lifetime.

Gifts during lifetime are potentially exempt if the individual survives for at least seven years, while others are immediately chargeable when they exceed a nil-rate band. If chargeable, the tax rates are half the rate payable on death. On death, the value of the individual's estate is chargeable to IHT at a flat rate of 40% on the value above the nil-rate band and any gifts during lifetime can be taken back into account if they have occurred within seven years of death.

Liability to IHT depends on the domicile status of the person who has died. If someone is regarded as domiciled in the UK, then IHT is due on their worldwide assets. If they are neither domiciled nor deemed domiciled, then IHT is due only on assets situated within the UK.

2.3.7 US

The US has a wealth transfer tax regime that comprises an estate tax, a gift tax and a generation-skipping transfer tax.

The US imposes an estate tax on all US citizens and residents. The taxable estate at death is chargeable at a top estate tax rate of 40% and is subject to an estate tax exemption of $10 million. US citizens and resident aliens are subject to gift tax on transfers of all property, regardless of the location during their lifetime. In addition, a generation-skipping transfer tax is designed to prevent wealthy individuals from transferring property to heirs more than one generation removed without any estate or gift tax liability.

Liability to estate taxes depends on whether the individual is treated as a US resident or a non-resident alien. A US citizen or resident is liable on their worldwide assets. For an individual who is neither a US citizen nor a US resident (ie, a non-resident alien), liability extends onto to US-sited property owned at death.

2.3.8 Key Features of Estate Taxes

Estate taxes are a common feature of most developed countries and some of the common characteristics of estate taxes that are encountered include:

- Some form of estate tax is payable either on lifetime gifts or the value of the estate that passes on their death.
- Tax is usually charged at a percentage rate on the gift or the value of the estate at death and this may be either a flat rate or one that increases progressively with value.

- Most countries have a series of exemptions or allowances that can be claimed that reduce the liability to tax. One common feature is that transfers between spouses are exempt.
- There tend to be complex tax laws that are designed to counter some ways of avoiding estate taxes making estate and tax planning a complex subject.
- Tax may be chargeable either on the estate of the person who has died or on the recipient of the bequest.
- Liability to pay estate taxes is based on the domicile or deemed domicile of an individual. Individuals treated as domiciled in a country are liable on their worldwide assets while those that are treated as non-domiciled are liable on the assets situated in that country.
- Where someone dies owning overseas assets, any liability to pay estate taxes in that country is either the subject of a double taxation treaty or is allowed as a set off against the liability in their own country.

2.3.9 Impact of Residency and Domicile on Estate Taxes

Learning Objective

2.2.4 Understand the impact of residency and domicile on the liability to pay inheritance tax

As we have seen, tax may be imposed on the assets that someone owns and the tax due may arise during their lifetime or on death. These types of taxes go by various names such as death duties, estate taxes, IHT, gifts tax and a wealth tax.

The liability to some form of estate taxes usually depends upon the domicile of the individual and the location of the assets they own. It is important that wealth managers who are dealing with clients from another country have an understanding as to how these taxes operate as this may impact the arrangements they put in place for their client and as an inappropriate arrangement can lead to an unintended tax liability.

Domicile is a deciding factor in the liability to estate taxes. There are also complex rules that can result in someone having a deemed domicile in a country and therefore becoming liable to pay estate taxes.

Where an individual has overseas assets, it is important to consider which country that asset is deemed to be in as this can determine whether a liability to estate taxes will arise on that asset.

- For example, if an individual who lives in France owns a property in the UK you can readily see that they own a UK asset and that they may be liable to estate taxes.
- What is less obvious, however, is the scenario where someone owns and asset that has some overseas connection.
- If a person owns shares in, say, HSBC – where is that asset located? HSBC is a UK-registered company and has its head office in London, but maintains share registers in different countries.
- What if your client is an author and has royalties from books that have been published? In which country is the right to receive royalties located?

Countries will have a set of rules to determine the location of where property is situated. The following table gives some indication of how they might be treated but it is important to remember that these are general indications only and will vary from country to country.

Location of Assets	
Kind of Property	**Location**
Real assets	Place where the property is located
Personal property	Place where the property is located
Deposits with a bank	Location of the office deposited
Insurance proceeds	Location of the head office or the principal office of the insurance company that issued the policy
Retirement pensions	Location of the head office or the principal office of the payer company
Government bonds	Country of issuance
Shares and bonds	Place where the issuing company has its head office or the location of the share register
Mutual funds	Location of the **trustee** or fund administrator's office or the location of the share register
Copyright or royalties	Location of the publisher's office
Patents and trademarks	Place where they are registered
Mining or quarry rights	Location of the mine or quarry
Ships or aircraft	Place where they are registered

For some clients who have limited assets overseas, this may not be an issue as the value may be below a minimum threshold at which estate taxes are payable. For others, however, an unexpected liability may arise.

It is important, therefore, to recognise the need for caution when dealing with overseas assets and to consider whether holding shares, for example, might be needed to avoid complications.

3. Transaction Taxes

Financial transaction tax is a generic name for taxes that are levied on transactions such as the sale and purchase of some sort of financial instrument such as stocks, shares or **FX** transactions.

Financial transaction taxes are imposed by governments on any sale, purchase, transfer or registration of a financial instrument. Many G20 countries currently impose some sort of financial transaction tax, and the most common is a tax on the trading of equities in secondary markets. They are generally *ad valorem* taxes based on the market value of the shares being exchanged, with the tax rate varying between 10 and 50 **basis points (bp)**.

The trend in share transaction taxes over the past several decades has been downward. The US eliminated its stock transaction tax as early as 1966. Germany eliminated its stock transaction tax in 1991 and its capital duty in 1992 (although, at the time of writing, there is a proposal to introduce an EU-wide Financial Transaction Tax). Japan eliminated its share transaction tax in 1999. Financial transaction taxes

have, however, become of particular interest to governments since the financial crisis of 2007–09 with studies into whether a global transaction tax should be imposed and more recently a proposal for an EU tax on securities transactions.

Transaction taxes can be known by various names including – a transfer tax; a securities transaction tax; a financial taxation tax; and stamp duty. Financial transaction taxes are found in approximately 20 countries with the most common one being stamp duty. Examples of each are shown in the following table:

Financial Transaction Taxes	
Transfer Tax	Belgium: • Belgium imposes a stock exchange tax on the purchase and sale of shares, bonds and the redemption of collective investment funds. The tax applies to transactions executed by a Belgium resident. • The rates are 0.12% for bonds, 0.35% for equities and 1.32% for transactions in investment funds. With set maximums per transaction.
Securities Transaction Tax	South Africa: • A securities transaction tax applies to the purchase and transfer of listed and unlisted securities. • The tax rate is 0.25% of the value of the transaction.
Financial Transaction Tax	France: • The French financial transaction tax applies to the purchase of French listed companies with a market capitalisation of at least €1 billion, certain **depositary** receipts, high frequency trades, credit default swaps on EU sovereign debt and certain corporate actions. • The current tax rate is 0.4% for French equity trades and 0.01% on high frequency trading.
Stamp Duty	UK: • Stamp duty reserve tax (SDRT) applies to the purchase of UK shares, shares of a foreign company with a register in the UK, share purchase options and subscription rights. • The tax applies to purchases in **dematerialised form** at a rate 0.5%. There is a similar tax that applies to purchases in physical form.

A transaction tax may also be triggered by the purchase or sale of property when it may be known as stamp duty land tax or some other name.

4. Business Taxation

Learning Objective

2.1.1 Understand the application of the main taxes as they may apply to businesses: business taxes; transaction taxes; sales or value added taxes; taxes on overheads (eg, business premises, employment, excise)

Taxes on corporate profits are complex and tax legislation can run to many thousands of pages, but despite this, it is useful for a wealth manager to have a general overview of how companies are taxed in order to understand corporate announcements and the potential impact of tax changes.

Companies are generally liable to some form of business or corporation tax on their total profits; it may be referred to as corporate income tax, corporation tax, business tax or some similar term. Such tax will be imposed by a central government, but there may be state taxes as well.

Liability to corporate taxation is usually based on total profits. Total profits include both the profits from their operating activities and any chargeable gains but are usually calculated based on statutory provisions so that taxable income does not necessarily equal income for financial reporting purposes.

Residence again plays a part in the liability to corporate taxation. For example:

- **Australia** – a resident company is subject to income tax on all of its income and capital gain from sources anywhere in the world. A resident company is a company that is incorporated in Australia. A non-resident company is generally taxed only on income from Australian sources and capital gains recognised on taxable Australian property.
- **US** – a domestic corporation is subject to a modified territorial tax regime on US-source income and is generally not subject to tax on income of its foreign subsidiaries unless some anti-deferral provision applies. Foreign corporations generally are not subject to US tax except on income connected with the conduct of a US trade or business and certain other income from US sources.
- **UK** – a resident company is subject to UK corporation tax on its worldwide income and gains subject to relief for any tax paid on the same income or gains in other jurisdictions. A company will be treated as a UK resident if it is incorporated in the UK or centrally managed and controlled (generally at the board level) in the UK. A non-resident company is not subject to UK tax except on income from a business carried on through a UK permanent establishment and capital gains arising on disposals of certain UK assets only.

Unlike individuals, who pay tax for a set fiscal year, companies have what is known as an 'accounting period' which is normally the period covered by the accounts and, for tax purposes, is usually never longer than 12 months.

An accounting period starts when:

- a company first becomes chargeable to corporate taxation, or
- the previous accounting period ends.

An accounting period ends when the earliest of the following takes place:

- The company reaches its accounting date.
- It is 12 months since the start of the accounting period.
- The company starts or stops trading.

A company's accounting period may not coincide with the country's fiscal year in which case profits are often apportioned between the two periods.

The rates of corporation tax that a company is liable to pay will vary from country to country and often change each year. Companies submit details of their taxable profit to the tax authorities after the end of the company's accounting period. The authorities review the company tax return to determine how much tax is payable and issue a corporation tax assessment to the company, showing the amount of tax due.

The treatment of dividend distributions varies. For example:

- **Australia** – dividend distributions by companies are taxable for shareholders. Subject to certain restrictions, Australian resident shareholders may be entitled to a tax credit for corporate tax paid by the company.
- **UK** – distributions paid by a UK company are generally treated as dividends to shareholders. UK company law forbids distributions which exceed accumulated realised profits and restricts a company's ability to repay capital, which generally requires a court order.
- **US** – distributions paid by a corporation are treated as dividends to shareholders to the extent of the current and accumulated earnings and profits of the company. A distribution in excess of this is treated as a return of capital to the shareholders and is treated as capital gain.

5. Trusts and Foundations

Trusts and foundations are widely used in international wealth management to preserve wealth and to control the distribution of assets on an individual's death.

5.1 Trusts

Learning Objective

2.3.1 Understand the fundamentals of trusts and their use in international wealth management: types of trusts; establishing a trust: certainties; roles of parties; main uses of trusts; types of assets held; sham trusts; private trust companies

Trusts are based on an English law concept and developed from the early Middle Ages onwards as a way of preserving wealth and passing on assets on death in a controlled way. More recently, their use has expanded internationally and they tend to be a feature of countries that have common law systems.

Common Law and Civil Law

The terms common law system and civil law system are used to distinguish the two main approaches to law.

A common law system is the type that originated in the UK and is today found in many countries such as the US and Australia. It is a law system that can be developed on a case-by-case basis as courts make decisions on cases brought before them.

Civil law refers to a jurisdiction that has adopted the continental European system of law that is derived from ancient Roman law and is based on a codified set of laws.

They are not exclusively found, however, in common law jurisdictions. Their inherent flexibility has led civil law countries such as Japan, South Africa and Switzerland to introduce trusts into their legal systems.

5.1.1 Characteristics of Trusts

A trust is the legal means by which one person gives property to another person to look after on behalf of yet another individual or a set of individuals.

Definition of a Trust

The formal definitions of a trust contained in legal textbooks can be quite difficult to follow but the Hague Convention on the Law Applicable to Trusts and on their Recognition has the following straightforward definition:

> *'For the purposes of this Convention, the term 'trust' refers to the legal relationships created – inter vivos or on death – by a person, the settlor, when assets have been placed under the control of a trustee for the benefit of a beneficiary or for a specified purpose'.*

A trust, therefore, is essentially a legal vehicle into which assets are transferred and which is then managed by the **trustees**, who have a responsibility to hold and apply the assets for the benefit of the named **beneficiaries**.

The central idea behind trust law hinges on separate ownership of property.

- Legal title to assets is vested in the name of the trustee or in the name of another person acting on their behalf. The beneficiaries are described as having beneficial ownership.
- The assets of a trust constitute a separate fund and are not part of the trustee's own estate.
- The trustee has the duty to manage the assets on behalf of the intended beneficiaries in accordance with the terms of the trust and any special duties imposed by law.

A trust is created by a legal document which will contain provisions detailing its terms, the duties and powers of the trustees and the beneficiaries who will benefit under the trust. One of the great advantages of a trust is its flexibility and it is possible to create a wide range of trusts with different characteristics.

5.1.2 Types of Trust

There are a variety of types of trust but generally they can be distinguished by two important characteristics, namely whether they are fixed trusts or **discretionary** trusts.

- **Fixed trusts** – the main distinguishing characteristic of a fixed trust is that the trust deed will set out precisely who will benefit from the trust and at what stage in the future.
- **Discretionary trusts** – these differ in that a class of beneficiaries is specified in the trust deed, but the trustees are given the power to determine which beneficiaries of that class will benefit and when.

The characteristics of some of the common types of trust that are encountered are shown in the following table:

Types of Trust	
Discretionary Trust	• This is the most flexible form of trust and by far the most popular in international tax planning and wealth protection. • The use of a discretionary trust will normally allow the trustees to appoint additional beneficiaries or to remove existing beneficiaries, and will usually also allow the trustees to distribute the income and capital of the trust between the beneficiaries as they see fit. • The settlor will often write a Letter of Wishes which sets out what they would like to happen to the trust fund in the future. This Letter is not legally binding, but in practice the trustee always follows it. • Alternatively, the settlor can designate someone else to give a Letter of Wishes in the future if necessary. • It is also possible to name in the trust deed, a person called a protector.
Bare Trust	• A bare trust is one where the beneficiary has an immediate and absolute right to both the capital and income held in the trust. • They are sometimes known as 'simple trusts'. • The assets are held by the trustee, but the trustee has no discretion over what income or capital to pass on to the beneficiary or beneficiaries. • Bare trusts are commonly used to transfer assets to minors. Trustees hold the assets on trust until the beneficiary becomes of legal age, at this point, beneficiaries can demand that the trustees transfer the trust fund to them.
Interest in Possession Trust	• An interest in possession trust, which is also known as a life interest trust, can provide a person with a right to enjoyment of assets during their lifetime with no absolute right to the capital or the assets. • Instead, the trust can provide that this capital passes on to someone else after that person's death.

Types of Trust	
Protective Trusts	• A protective trust has been used for many years as a way for assets to be passed on to a beneficiary who is a spendthrift and might waste money if it were left directly to them. • The trust will be an interest in possession trust designed to benefit the individual until what is known as a 'divesting event' occurs. This might mean that the individual is declared bankrupt or tries to sell their interest in the trust to raise money. • On a divesting event, the trust converts into a discretionary trust for a named class of beneficiaries usually including the original beneficiary.
Asset Protection Trusts	• An asset protection trust is a vehicle for holding an individual's assets to shield them from creditors. • Their use has increased in use in recent years with the rapid increase, primarily in the US, of litigation against professional firms and the medical profession. • As a result, many individuals have elected to create trusts in neutral tax jurisdictions in which to place part of their assets, in the hope that they will be safe from any future claims.
Charitable Trusts	• A charitable trust is a type of trust set up for a cause or purpose that will benefit a large group of people or society in general, not specific individuals. • Such a trust is considered to be for the benefit of the public and so qualifies for tax reliefs that private trusts do not get.
Non-Charitable Purpose Trusts	• These are a type of trust that can be created in certain jurisdictions that have no named beneficiaries and can exist indefinitely. Instead, they must have a protector or enforcer whose role is to ensure the trustee fulfils the purpose of the trust. • They can be used for the preservation of wealth, succession planning and asset protection. • Non-charitable purpose trusts are often established to hold shares in private trust companies. Using this structure ensures privacy and allows for rapid commercial decisions to be made. • They are also used to hold shares in the family business for succession planning purposes. Upon the death of the older generation, the trust allows the shares to continue to be held for purposes relating to the family business, ensuring that shares are not split up among multiple beneficiaries and sold. This is useful in ensuring continuity in the business in years to come.

5.1.3 Establishing a Trust

While there is no need to evidence a trust in writing, the complexities involved in creating a trust and legal and tax issues that need to be considered are such that specialist advice needs to be sought when a trust is created.

Proper formalities should be observed in the creation of a trust in order to rebut any attack on their validity at a later date.

A trust is usually created by the execution of a formal trust deed by the settlor and the trustees. The trust deed will set out the terms of the trust, the duties and powers of the trustees and the beneficiaries who are to benefit.

A trust document by itself will not, however, constitute an effective trust unless the trust property is transferred to the trustees in a proper manner. The trust deed may be used to formally transfer assets to the trustees but depending on the type of asset involved different formalities may apply.

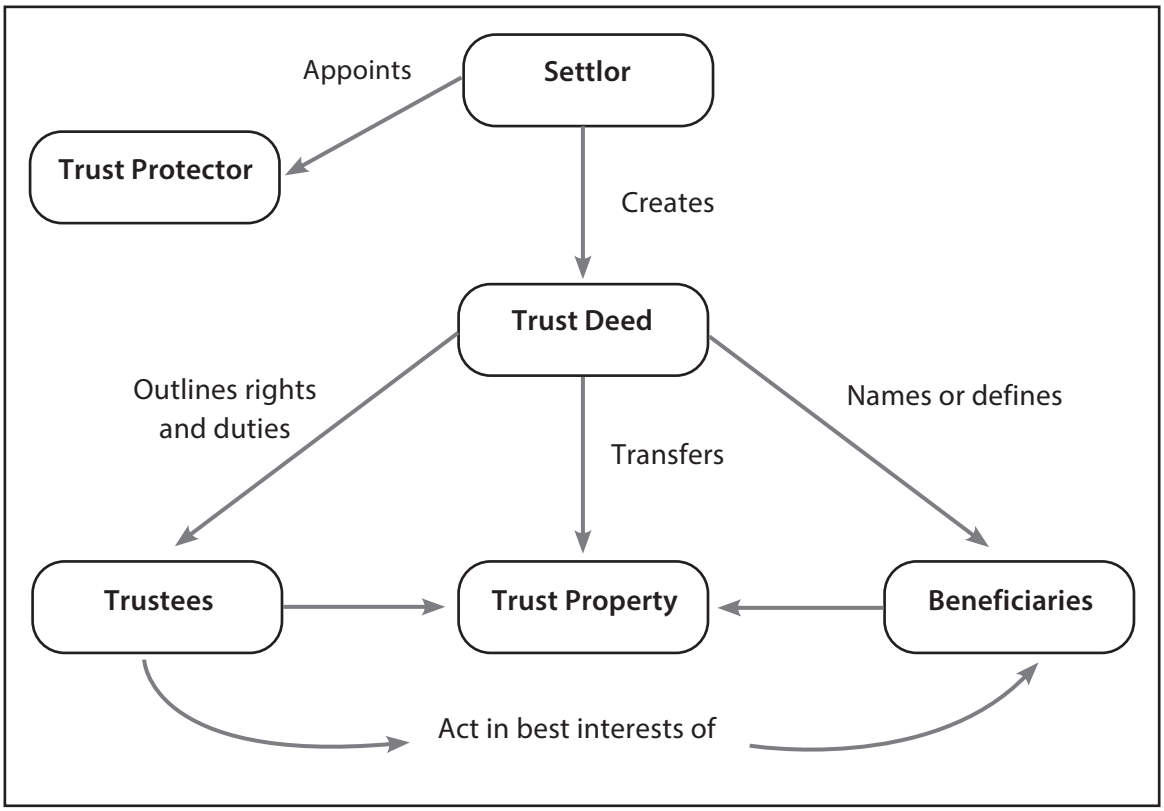
To be valid a trust usually needs to meet the test of the three certainties in order to ensure the trust is properly established, legally valid and the terms can be enforced.

Three Certainties	
Certainty of words or intention	• The key test is whether the requisite intention is present to show whether the creator of the trust wanted someone to be under a duty to hold property for the benefit of another person. • If there is an absence of certainty of intent to create a trust, there will be no valid declaration of a trust.
Certainty of subject matter	• Trusts can be declared over all kinds of property, including intangible property, but the subject matter must be clearly defined in the trust instrument. • As well as the property being defined, the property must be able to be identified; if it cannot be identified the trust will be void for uncertainty.
Certainty of objects	• The objects of a trust refer to the intended beneficiaries. • For fixed trusts, it must be possible to identify exactly who all of the beneficiaries are in order for the trustees to distribute the property correctly. It is not necessary to draw up a complete list when the trust is created, but when property is to be distributed or a specified condition met. • For discretionary trusts, it is important to have certainty of objects so the trustees know who to consider when deciding how to distribute the trust property. This means that the trustees must be able to show whether a potential beneficiary will fit within the description of the objects.

5.1.4 Role of the Parties

The parties involved in a trust are shown in the following diagram:

Parties to a Trust



The role of the parties includes:

- **Settlor** – the individual who decides to set up the trust and who arranges for a portion of their assets (the initial settled funds) to be transferred to the trustees.
- **Trustees** – the individuals appointed by the settlor to act as trustees. It is normal to appoint professional trustees or a corporation that is authorised to act as a trustee. A corporation allows for continuity as it avoids the necessity of appointing a new trustee if any one individual dies. The trustees have legal ownership of the assets of the trust.
- **Beneficiaries** – the trust deed will identify who the initial beneficiaries are or specify a class from which the beneficiaries may be drawn. Beneficiaries may include the settlor, the spouse, children, grandchildren, any future children not yet born, or any other parties the settlor may propose.
- **Trust Protector** – a protector is an individual whose role is to ensure the trustees act in accordance with the settlor's wishes. They will, typically, have the power to appoint or remove trustees and to nominate further beneficiaries. The use of a protector is optional, but it is generally recommended especially for offshore trusts when it may be a single individual or a council of four individuals who act by a majority.

5.1.5 Uses of Trusts

A properly structured trust is a flexible vehicle for international financial planning for wealthy private clients.

They are instrumental in regulating the succession to family wealth, and to protect assets from a wide variety of contingent risks. For residents of some countries, trusts may provide a structure through which inheritance and income taxes can be minimised. Some of their main uses are considered below.

Preservation of Wealth

A trust involves vesting the legal title of assets in the name of the trustees which can prevent the ownership of the assets such as a family business being diluted by successive generations, while allowing individuals to continue to benefit from the assets.

As the legal title to the assets remains with the trustee, this prevents the dilution of ownership that would occur if the assets were distributed from the original owner to second and third generations.

Asset Protection

An asset protection trust can be used to protect the assets of an individual from claims by potential future creditors.

If an individual transfers part of their assets to a trust, these assets cease to be part of their estate and as such any future claims by creditors will not normally be enforceable against the trustees. However, it is important to note that if the settlor creates the trust with the intent to avoid creditors, it is likely that the trust can be set aside.

Forced Heirship

Certain countries have laws which determine how an individual's estate should be distributed on their death known as forced heirship laws.

By divesting assets during the lifetime of the settlor, the trust will not form part of their estate upon their death. Where some of the assets of an individual are held outside that country, it may be possible to use a trust to distribute those assets in a manner which would not be possible under the forced heirship laws.

Other Uses

Trusts can play a key role in estate and financial planning for wealthy clients. Other uses include:

- **Tax** – the major tax benefit in using a trust is that the assets held by a trust belong to the trustees and not to the settlor. By taking the assets out of the settlor's estate, they would normally cease to be taxable on the settlor. This can often be very useful for IHT and for deferring capital gains. The tax benefits will depend on the tax position of the settlor and beneficiaries, and where they reside.
- **Anonymity** – trusts in many jurisdictions are not required to file information with the authorities, either on creation or on an annual basis. It is also possible to create a trust through a declaration of trust without identifying the settlor in the document itself.

- **Commercial trusts** – in many international centres there has recently been a growth in the use of trusts for commercial purposes. Uses include: employee incentive schemes, collective investment schemes and the issue of a number of debt instruments.

5.1.6 Private Trust Companies

Private trust companies can be created and used by wealthy clients as a way of managing large family businesses that professional trustees might find difficult. A private trust foundation can also be used to achieve the same purpose.

A trust involves the transfer of ownership to the trustees which can present issues for both the settlor and the trustees. The settlor may be reluctant to hand over control as they are concerned that the trustees will not necessarily understand the nature of the business owned by the trust. The trustees, for their part, may be concerned that should something go wrong with the business that they could be sued by the beneficiaries for failing to diversify the trust's assets and so reduce risk.

In this arrangement, instead of the family business being owned by a trust, additional layers are created in the structure.

- A trust will hold the family business as its asset.
- A private trust company is created to act as trustee of the family trust.
- The private trust company is a limited company and the board of the company can be selected to ensure that there are suitably qualified advisers appointed who understand the nature of the business along with the settlor.
- While the settlor could own the shares in the private trust company directly it would probably be undesirable to have any direct link with its ownership, whether for tax, disclosure or for a variety of other reasons. Instead, a non-charitable purpose trust is created which holds the shares in a private trust company as its sole asset.

Private trust companies and private trust foundations are used for owning and administering the assets of wealthy families and are favoured because they enable the board of directors to be suitably qualified and address the concerns of the trustees over their potential liability.

To avoid the possibility that the structure being attacked as a sham, there must be evidence that the settlor and the trustee (the private trust company) intended to set up and operate a proper trust structure. The appointment of a licensed administrator to carry out the general administration of the private trust company and the underlying trusts is used to help avoid such a sham attack.

5.1.7 Sham Trusts

It is becoming increasingly common for trusts to come under attack and for the validity of a trust to be questioned on the basis that the instrument creating it is a sham document or fails to fulfil the requirements for the creation of a valid trust.

From a wealth management perspective, this refers to where trusts are challenged because they are perceived to be aggressive tax avoidance devices and creditors seek to overturn the validity of the trust in order to get at the underlying assets or in divorce actions.

If the validity of a trust can be challenged, a court may set aside the trust and open the assets to the claims of creditors. In some countries where the validity cannot be challenged, rules have been introduced to allow a 'look through' of the transaction where it is deemed to have been undertaken to avoid, for example, payment of fees so that the effect of the creation of a trust is ignored.

To reduce the chances of an attack on the validity of a trust, trustees should understand the importance of acting independently.

- Evidence of a sham can be demonstrated where control of the trust property is vested in the settlor and the trustees exercise no independent discretion or take any actions consistent with the terms of the trust.
- Trustees should keep detailed minutes showing their proper independent consideration of trust matters, the exercise of any discretion and that they were not subject to any improper influences of the settlor.
- Where trustees are asked by a settlor to be involved in a transaction which is being led by the settlor and perhaps principally for their benefit, it is essential that the trustees demonstrate their independent evaluation of the transaction and their consideration of the interests of other beneficiaries who might be affected.

If the court finds a trust to be a sham, then the trust will be regarded as void and it is likely that the trust property will be found to be held on a resulting bare trust for the settlor which will leave the settlor with an absolute beneficial interest in the trust property which is capable of being taxed, inherited or claimed.

The trustees might then find themselves subject to tax penalties and subject to an investigation by the financial services regulator into their conduct as trustees.

5.2 Foundations

Learning Objective

2.3.2 Understand the fundamentals of foundations and their use in international wealth management: types of foundations – private, corporate, charitable, special purpose; establishing a foundation – charter, role of founder, foundation council and other parties; uses of foundations – types of assets held, restrictions on commercial activities, international business companies

Foundations are similar to trusts and originated in civil law jurisdictions, but are also now available in some common law jurisdictions as an alternative to a trust.

A foundation is an incorporated entity with separate legal personality but unlike a company, it does not have shareholders. Instead, it holds assets in its own name on behalf of beneficiaries or for particular purposes and it operates in accordance with a constitution comprising of a charter and a set of rules.

A foundation will act through its council which will govern the foundation in accordance with the terms of the foundation's constitution. The council members perform much the same role as trustees.

5.2.1 Types of Foundation

Foundations have long been favoured by wealthy individuals and families as a vehicle for accomplishing their wealth and succession management strategies, corporate control and their charitable objectives.

Broadly speaking they fall into the following categories:

- **Private** – for succession management and wealth management purposes.
- **Corporate** – for continuity of control, pension and employee benefit schemes.
- **Charitable** – for the benefit of charitable organisations.
- **Special Purpose** – donations serving a specific philanthropic purpose.

While the above types offer specific objectives, foundations can be established to embrace all purposes and objectives. The purposes are contained within the foundation charter and by-laws.

5.2.2 Establishing a Foundation

A foundation is established by executing a charter, transferring funds and registering the foundation at a public registry. Once the foundation charter is registered, it is then incorporated as a corporate body. The process is not dissimilar to setting up a company.

The founder is the person who gifts assets to the foundation which will be established for a specific purpose that is set out in its charter and articles.

Foundation Charter

The foundation charter contains details of the founder, the foundation council and its initial capital. It will also set out the objectives and goals of the foundation which must be possible, reasonable, moral, and legal and the manner in which the beneficiaries (which may include the founder) are selected.

A foundation may usually have a second document called its 'Regulations' which is a private document generally drafted by the founder detailing beneficiaries, assets of the foundation and any instructions as to how they are to be administered and distributed. Alternatively, a Letter of Wishes may be written by the Founder or Protector with much of the same information.

The founder appoints a foundation council to oversee and manage the foundation's assets in accordance with the charter and the regulations or letter of wishes. From time to time the Foundation Council as directed will distribute the assets, or a proportion thereof to the beneficiaries. The council, therefore, has a mix of some duties of a trustee and some duties of a company director.

Private foundations may usually have a supervisory person, usually referred to as a 'protector' or 'guardian' of the foundation. It is common for the protector to have a supervisory role over the foundation council.

Unlike a corporation which issues shares to owners, a private interest foundation has no shareholders and has no owners; instead, it has beneficiaries. The beneficiaries may be named by the founder in the regulations or letter of wishes or may be selected by the council or the protector.

Beneficiaries, typically, have very limited rights regarding knowledge of the foundation activities or even of the fact that they are beneficiaries in many cases. The beneficiaries are not the beneficial owners of the foundation.

5.2.3 Uses of Foundations

As with trusts, foundations can have multiple uses for private, charitable and corporate purposes and can be incorporated into a variety of potential structures tailored to best suit a particular client's needs.

Uses of Foundations	
Private	• Foundations may be particularly attractive as a simple alternative to trusts for clients especially from civil law jurisdictions for whom the concept of a trust may be unfamiliar. • They can be used to achieve much the same ends as a private trust and are highly flexible regarding how long it lasts, how the founder may remain involved in the administration and how much information the beneficiaries are entitled to. • As with trusts, provided they are appropriately drafted, the foundation may also be a suitable vehicle for asset protection as it divorces the ownership of the assets from the founder. • It can also be used as part of a larger wealth management structure holding various companies or assets, or can hold more high risk, less income-producing assets which may not be appropriate to be held by all trusts.
Charitable	• The term 'foundation' has positive connotations for philanthropic clients. • Its purposes do not have to be exclusively charitable and so can be more flexible than the traditional charitable trust.

Unlike a company, a foundation cannot carry out commercial activities except those necessary for, or incidental to, its purpose. It can, however, have a shareholding in an international business company that is set up in an offshore centre to undertake commercial activities.

5.3 Trusts and Foundations Compared

Learning Objective

2.3.3 Understand the essential differences between trusts and foundations, and be able to distinguish them from other legal entities

Trusts have been used in common law countries for many hundreds of years to help mitigate tax liabilities and to assist with the flow of family wealth across the generations.

Historically, clients from civil law countries have been more familiar with the concept of the foundation. Both types of jurisdictions now recognise the advantages of each and many countries have made both options available.

Trusts and foundations are used for a wide variety of reasons which are very similar, including:

- asset protection
- circumvention of forced heirship laws
- confidentiality
- continuity on death
- favourable tax treatment
- philanthropy, and
- preservation of wealth and selective distribution of assets.

Similarities and Differences between Trusts and Foundations	
Similarities	• One has a settlor who may have reserved powers and the other has a founder who may have rights reserved to them over the management of the foundation. • One has a trustee and the other a council and officers. • One is governed by the provisions of a trust deed and the other by a charter and articles or regulations. • The ownership of the assets in a trust is vested in the trustee, while a foundation owns the assets directly. • Both have beneficiaries.
Differences	• An important distinction between a trust and a foundation is that a trust is not a legal entity, while a foundation is a registered legal entity. • A trust is a legal relationship between the settlor, the trustee and the beneficiaries. The trust itself is not a legal entity. The trustees are the legal, but not beneficial, owners of the assets. • A foundation constitutes a legal entity in its own right. • Another key difference is that a trust can be used for commercial purposes, but a foundation, except under limited circumstances, cannot.

When considering whether to use a trust or a foundation it is important to consider the effect of the tax treatment on all parties concerned.

- In common law jurisdictions, there should be certainty as to the tax treatment of the settlor and beneficiaries of any trust and in civil law jurisdictions there should be certainty of tax treatment in respect of foundations.
- Careful consideration and advice need to be taken when using a trust in a civil law jurisdiction and a foundation in a common law jurisdiction.
- If there is no agreed position on the tax effects, then the tax authorities are likely to treat the trust or foundation in a way that most suits the tax authority.

5.4 Money Laundering

Learning Objective

2.3.4 Understand how offshore trusts are used for money laundering, and the steps that should be used to counter illegal activities

Wealth management involves the provision of banking and investment services to wealthy individuals that include bespoke product features that are tailored to a client's particular needs.

5.4.1 Risks Posed by Trusts and Foundations

Money launderers are attracted by this availability of complex products and services especially where they operate internationally and in an environment that is familiar with high value transactions.

Some of the factors that contribute to the increased vulnerability of wealth management to **money laundering** include:

- Wealthy clients often require confidentiality and are reluctant or unwilling to provide adequate documents, details and explanations.
- Clients often have many accounts in more than one jurisdiction making it more difficult to accurately assess the true purpose and business rationale for individual transactions.
- Offshore trusts and company structures are used to maintain an element of secrecy about beneficial ownership of funds.
- There is a culture of secrecy in certain jurisdictions, supported by local legislation, in which wealth management is available.
- The transmission of funds and other assets by private clients often involves high-value transactions, requiring rapid transfers to be made across accounts in different countries and regions of the world.

In addition to the standard identification requirements, an investment firm must endeavour to understand the nature of the client's business and consider whether it is consistent and reasonable, including:

- The origins of the client's wealth.
- Where possible and appropriate, documentary evidence relating to the economic activity that gave rise to the wealth.
- The client's business and legitimate business structures.
- The nature and level of business to be expected over the account including the type of transactions and the use made by the client of products and services.
- Where corporate and trust structures are being used, the reason why complex structures are being used and the ultimate beneficial owner, settlor and beneficiaries.

5.4.2 Due Diligence

There is a wide variety of trusts and foundations that range from large national or international organisations subject to a high degree of public scrutiny to small value trusts set up under a will or to benefit a local community. As a result, the due diligence process put in place needs to take account of the different money laundering or terrorist financing risks that trusts and foundations of different sizes, areas of activity and nature of business being conducted present.

Firms should make an appropriate distinction between those trusts that serve a limited purpose or have a limited range of activities and those where the activities and connections are more sophisticated, based overseas or have financial links to other countries. For situations presenting a lower money laundering or terrorist financing risk, the standard evidence will be sufficient. For other trusts and foundations, the level of customer due diligence (CDD) that needs to be undertaken is higher than will be encountered for other types of financial services.

Full CDD should be undertaken on the trustees or their equivalent who enter into the business relationship with a firm and who will give instructions on behalf of the trust or foundation. A risk-based assessment should be undertaken to determine whether other trustees (or equivalent for a foundation) should be subject to the same full CDD measures or verified as beneficial owners. The settlor, beneficiaries and any trust protector or equivalent should also be verified as beneficial owners.

For offshore trusts and foundations, the firm will need to give consideration as to whether the geographical location gives rise to additional concerns. Where a trust or foundation seeks banking or other financial services outside its home jurisdiction, firms will need to be satisfied that there are legitimate reasons for it doing so.

In view of the nature of wealth management services generally, additional controls and procedures should be applied both to the acceptance and ongoing maintenance of wealth management relationships. These additional controls should include:

- A review process when considering the further development of the business relationship with, say, the introduction of new funds or assets.
- Requiring that the information held relating to wealth management clients be reviewed and updated on a periodic basis or when a material change occurs.
- Wealth management firms should consider reviewing their business with higher-risk clients on at least an annual basis.
- In view of the risk associated with wealth management activities, there should be a heightened ongoing review of account activity and the use made of the firm's other products.

6. Tax Compliance

Learning Objective

2.4.1 Know how tax is accounted for, and an adviser's duties regarding tax compliance, avoidance and evasion

2.4.2 Understand the compliance implications and reporting requirements for international disclosure of client tax information

Since the 2008 financial crisis, the subject of tax avoidance has become a major issue in many countries. At a time of austerity and cuts in public services, the extent to which wealthy individuals and multi-national companies have avoided taxes has been widely condemned and is leading to new definitions of what is acceptable.

6.1 Tax Avoidance vs Tax Evasion

Tax avoidance is generally the legal exploitation of the tax regime to one's own advantage, to attempt to reduce the amount of tax that is payable by means that are within the law while making a full disclosure of the material information to the tax authorities.

By contrast, tax evasion is the general term for efforts by individuals, companies, trusts and other entities to evade the payment of taxes by illegal means. Tax evasion usually entails taxpayers deliberately misrepresenting or concealing the true state of affairs to the tax authorities to reduce their tax liability, and includes, in particular, dishonest tax reporting (such as under-declaring income, profits or gains; or overstating deductions).

While the difference between tax avoidance and tax evasion used to be simply expressed as the first is legal and the second is illegal, public perceptions of what is acceptable tax avoidance are leading this to be more carefully defined.

The term 'tax mitigation' is now being used to refer to acceptable tax planning. It refers to ways of minimising tax liabilities in ways that are expressly endorsed by tax legislation. By contrast, tax avoidance flouts the spirit of the law and is, therefore, thought by some to be unacceptable, albeit not criminal in the way that evasion is.

6.2 Tax Information Sharing

International cooperation is increasingly being used to improve the exchange of information between countries in order to counter international tax avoidance and evasion.

Examples of tax sharing information that have been in place for some years include the QI Scheme and the Foreign Account Tax Compliance Act (FATCA) in the US and the EU Savings Directive in Europe.

Tax Information Sharing*	
US QI Scheme	• Regulations were introduced in the US in 2001 to clamp down on US citizens who attempted to evade tax by holding securities outside of the US and then not declaring the income. • The effect of these regulations is that non-US investors holding US stocks are required to prove that they are not US citizens by lodging proof of their domicile with their custodians. The custodian is then obliged to report this to the US Inland Revenue Service (IRS). • Custodians have had to apply for Qualified Intermediary (QI) status so that they can undertake this service on behalf of their customers. As a QI, the custodian is required to determine the eligibility of its account holders to receive income with a reduced rate of withholding tax deducted. • The custodian is required to obtain from its customer a W-8BEN form, under which, the customer states that they are the beneficial owner and not a US person while certifying their qualification for the benefits of the double tax treaty.
FATCA	• FATCA aims to combat tax evasion by US tax residents using foreign accounts. • It includes provisions on withholding taxes and requires financial institutions outside the US to pass information about their US customers to the US tax authorities (the IRS). • Failure to meet these new reporting obligations would result in a 30% withholding tax on a financial institution.
EU Savings Directive	• It aims to counter cross-border tax evasion by collecting and exchanging information about foreign resident individuals receiving savings income outside their resident state. • The scheme requires banks, registrars, custodians and other financial institutions that make interest payments to establish the tax identification number of the beneficial owner. • The paying agent will then report that information and information about the savings income payment to its own tax authority, who will pass it on to the tax authority of the country or territory in which the individual is resident.

* Candidates should note that there are other such schemes in particular countries and should ensure that the appropriate declarations are made depending on the circumstances of the client and the regions in which a client's portfolio is invested.

The need for a global approach to tax information sharing to counter aggressive tax planning became a higher priority following the 2008 financial crisis.

A model tax information sharing agreement was developed by the OECD in response to a request from the G20 which requires counties to obtain information from their financial institutions and automatically exchange that information with other countries on an annual basis. The Common Reporting Standard (CRS) is the agreed standard for all automatic exchange of information and is in place in over 100 countries.

- The process starts with the taxpayer providing information regarding their identity to the bank of financial institution with which they have assets.
- These financial institutions are then required to report the identity of the non-resident taxpayer as well as payments made to them to the tax authorities.
- Once the information has been received by the source country's tax authorities. The information is consolidated and bundled according to the country of residence of the taxpayer.
- The information is then transmitted from the source country to the residence country.
- The tax authorities in the residence country then match the details with their domestic records and based on the results, may take compliance action against the individual involved.

As the exchange of tax information has been implemented, many taxpayers have had to reveal previously undeclared offshore financial assets to their tax authorities leading to significant amounts of additional tax revenue being collected.

In order to address the risk that some advisers would still help individuals to hide their financial assets offshore, new rules have been developed to target both those individuals and their advisers.

The OECD has developed model disclosure rules that require lawyers, accountants, financial advisors, banks and other service providers to inform tax authorities of any schemes they put in place for their clients to avoid reporting under the CRS or prevent the identification of the beneficial owners of entities or trusts. The new rules also require the reporting of structures that hide beneficial owners of offshore assets, companies and trusts.

7. Tax Planning

Learning Objective

2.5.1 Know the key principles of investment tax planning to basic recommendations relating to the taxation of savings, investments and pensions: use of personal tax allowances; spouses' personal tax allowances; children's tax position; pension contributions; use of tax-efficient wrappers; use of capital gains tax exemptions; tax deferral; tax-incentivised investments

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As tax rules vary from country to country, in this section, we will consider some of the general principles of how different taxes affect a client and as a result impact on the construction of suitable recommendations.

An understanding of tax is needed in investment management, but should not drive the strategy. It is suitability and the client's objectives that are most important.

There is, however, a need to recognise the effect of tax on investments as it may influence choice. The interaction of taxes needs to be fully understood so that the client's assets are suitably invested to minimise the impact that tax will have on either growth or income for the client. This can make a substantial difference to the returns from an investment and, at the same time, complicate the investment decision-making process.

Some clients are averse to paying tax on gains made by their investments and hence investment managers need to pay attention to any client restrictions placed over the management of the portfolio. Of course, this could affect the future performance of the portfolio and move the client away from their original mandate. Keeping to the investment **mandate** is imperative, but an investment manager may be able to move higher producing income assets into a tax-free wrapper, to reduce the client's income tax bill, without altering the client's mandate.

Other factors to be aware of when considering tax on capital gains include:

- Identifying the time limits for investment holdings if this will minimise the rate of tax payable.
- Using tax-advantaged investment plans such as retirement plans or exempt investment accounts.
- Calculating the total cost basis of an asset is critical to understanding if an investment is profitable or not, and any possible tax consequences.
- Using capital losses to offset capital gains.

When managing tax implications for a client, it is important to appreciate the difference between tax evasion and tax avoidance. Tax evasion is a financial crime and is illegal whereas tax avoidance is organising your affairs within the rules so that you pay the least tax possible. The latter is the responsibility of the adviser when they are undertaking financial planning and must be conducted in accordance with acceptable practices.

Although not exhaustive, the following points should be considered when selecting a suitable tax planning strategy:

- What is the client's investment objective?
- Are there any anticipated changes to the client's personal circumstances that might affect the strategy in the future, eg, access to capital requirements?
- Have all relevant income and capital gains allowances already been claimed?
- If a product wrapper is being used for specific tax benefits, what are the conditions for securing and retaining the tax benefit, eg, minimum holding periods?
- Are there any ongoing consultations or proposed tax changes pending that might affect the proposed strategy?
- Is input required from other parties, eg, tax specialists/accountants?
- Are there any additional reporting requirements on the client's tax return as a result of implementing the strategy?

It should also be remembered that tax legislation is constantly being reviewed and updated, therefore, future changes to taxation rules may render a tax-planning strategy ineffective or at least trigger a review of previous plans in light of new information or legislation.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. Who is likely to have a domicile of dependency?
   Answer reference: Section 1.1.1

2. How do worldwide and territorial tax systems differ?
   Answer reference: Section 1.2.1

3. A client has received a dividend from an overseas company that has had withholding tax deducted. What options are open to the client to deal with the tax deducted?
   Answer reference: Section 1.2.3

4. In general terms, how does the tax treatment of a resident of a country compare to that of someone who is classed as non-resident?
   Answer reference: Section 2.1.1

5. What are franked dividends and in general terms how are they treated for tax purposes?
   Answer reference: Section 2.1.3

6. How are losses on the disposal of assets typically treated for the purposes of tax on capital gains?
   Answer reference: Sections 2.2

7. How does the physical location of an asset affect how it is treated for estate taxes?
   Answer reference: Section 2.3.9

8. Stamp duty reserve tax (SDRT) is an example of which type of tax?
   Answer reference: Section 3

9. Which party to a trust has legal ownership of the assets and which has the capacity to enter into a contract that will bind the trust?
   Answer reference: Section 5.1.4

10. A client has asked you to explain the difference between tax evasion, tax avoidance and tax mitigation. How could you clearly explain the differences?
    Answer reference: Section 6.1

Chapter Three

Investment Products

1.	**Investment Funds**	**157**
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This syllabus area will provide approximately 9 of the 80 examination questions

In this chapter, we will look at the range of investment products available to investors, including ones such as mutual funds, **exchange-traded funds (ETFs)**, and investment companies and then at the opportunities provided by life assurance investment products and retirement funds.

1. Investment Funds

Learning Objective

3.1.1 Understand the main types, purposes, common investment characteristics, risks and behaviours of funds, collectives and other investment products available globally

There are a variety of different structures available, and the main types are considered below. In general terms, these are pooled investment schemes that enable private investors and wealth managers to access professional management of an investment portfolio and take advantage of strategies and exposures that they might not be able to do themselves.

The use of investment funds, as we know them today, began in the late 1800s when laws permitting the creation of limited liability companies were enacted.

- The first were investment companies such as investment trusts which first appeared in the UK in the 1860s following the passing of the first Companies Act, which allowed the creation of companies with limited liability. The first **investment trust** to be created was the Foreign & Colonial Investment Trust, which was created in 1868 and still operates today. This is the basis for the closed-end fund structure that we will look at later.
- The idea of pooling resources and spreading risk using **closed-end** funds started in Europe in the 1800s and spread to the US where the concept was adapted to create an **open-end fund** – the US mutual fund. During the Wall Street Crash, many highly leveraged closed-end funds were wiped out but the small open-ended mutual funds managed to survive and became the dominant type of structure used.
- More recently, ETFs have been introduced which combine some of the attractions of open-end funds with their ability to create or cancel shares in response to investor demand with the ease of being able to undertake trading on a stock market, as seen in closed-end funds.

1.1 General Characteristics of Investment Funds

Although there are various types of investment fund, they share some common characteristics that we will look at below.

1.1.1 Authorisation of Investment Funds

Before an investment fund can be marketed to the public, it must be either authorised or recognised by the regulator. To be authorised, a fund must apply to the regulator for approval which will result in the issue of an authorisation order.

Typically, the application for authorisation must be accompanied by:

- a copy of the instrument of incorporation for a company constituted as a company, a copy of the draft trust deed for a **unit trust**, or a co-ownership agreement for a contractual scheme
- a solicitor's certificate that the instrument of incorporation, the trust deed or the contractual agreement complies with regulatory requirements
- a business plan, and
- a copy of the draft prospectus and investor information documents.

The instrument of incorporation or the trust deed will set out the fund's constitution, its name, location and investment objectives and contain rules about the internal management of the fund. A summary of some of the likely contents is shown in the following table:

Content of the Instrument Incorporating the Scheme	
Scheme details	• Name of the scheme. • The object of the scheme, its investment powers, the types of assets it may invest in and any restrictions. • Duration of the fund (if appropriate).
Types of shares	• A provision that a shareholder has no further liability to the fund beyond payment of the price paid for the shares. • Classes of shares that may be issued, and their rights. • Whether certificates will be issued. • Voting rights. • How income will be distributed or reinvested.
Valuation and pricing	• The **base currency** of the fund. • The basis for valuing and pricing the fund. • The basis on which charges can be recovered from the fund. • Issue and cancellation process and details when *in specie* settlement may take place and any restrictions on redemptions.

Investment funds are required to produce and keep up to date a prospectus that provides comprehensive information to investors and their advisers that allows them to make an informed decision before investing in a fund.

The document will set out details of the investment objectives of the fund and the strategies it uses, along with details of the **fund manager** and the trustee or depositary. It will also set out the different share classes, their charges, the process used for valuation and pricing, how investor dealing takes place and how income will be distributed or reinvested.

A summary of the standard contents of a prospectus is shown in the following table.

Content of the Prospectus	
Authorised fund	• A description of the fund and whether it is structured as a company, as a unit trust or a contractual scheme.
Investment objectives	• The investment objectives of the fund and the investment policy it will follow to meet those objectives. • Details of the types of assets and markets it will invest in and any restrictions that may apply. • Information about the historical performance of the fund (if applicable). • Information concerning the profile of the typical investor for whom the scheme is designed.
Reporting	• Details of the accounting dates for the fund and when the annual report will be issued. • Procedures for income distributions and **equalisation**.
Unit or shares	• Details of the unit/share classes that are in issue and the rights of each class.
Parties	• Details of the parties involved in the management and administration of the fund.
Unit/Share register	• The name of the registrar and where the unit/share register is maintained.
Charges	• Details of what charges will be paid out of the fund and whether they will be allocated to income or capital.
Valuation and pricing	• Whether the fund is single or dual priced and how the valuation of the fund will be undertaken.
Dealing	• The arrangements for investors to buy and sell shares, whether the fund is priced on an historic or forward basis and the initial charges and redemption charges that may apply.
General	• General information on a range of areas, including its tax position and whether annual general meetings (AGMs) will be held. • A clear and easily understandable explanation of any risks an investor can expect to face by investing in the fund. • Any further information which investors and their professional advisers would reasonably require to make an informed judgement about the merits of investing in the authorised fund and the extent of the risks involved in doing so.

A prospectus can run to hundreds of pages and so, in some countries, it is a requirement that funds produce a simplified version that is easier for investors to digest. For investment managers, however, there is no substitute for ensuring they are familiar with the typical contents of a prospectus and are able to readily locate the information they need.

1.1.2 Net Asset Value (NAV)

An investment fund pools an investor's subscriptions into a portfolio, which it then manages in accordance with its investment mandate. NAV in the context of an investment fund refers to the value of its underlying portfolio, plus the cash it holds, and less expenses.

A key characteristic of an investment fund is, therefore, how it values the assets under management as a portfolio consists of many holdings, and their prices are changing constantly, the process is called 'striking the NAV' at it takes the value at one point in time.

Valuation Process	
General	• The starting point is the valuation of the portfolio as at the last valuation point. • The overall aim of the process is to capture all changes since the last valuation and make provisions for expenses and charges so the new value can be established.
Trade capture	• Details of all trades undertaken since the last trade need to be captured and incorporated into the portfolio. • They should be incorporated into the portfolio as at trade date.
Corporate events	• Income received on the fund's holdings since the last valuation point needs to be identified and included. • Holdings need to be adjusted for any corporate actions.
Reconciliation	• The holdings in the portfolio, and any cash or other assets, need to be reconciled to ensure their accuracy. • Fund positions need to be reconciled with the investment manager's trades, the broker's positions and the custodian's positions. • Material breaks need to be resolved before the NAV process can be finalised.
Security pricing	• Having determined the revised portfolio, the next step is to apply prices to the holdings to value them.
Expense allocation	• The fund must apply all charges that are due and accrue a proportion of the fees and expenses that are due later. • Examples of the types of charges for which a provision is needed include management, administration, **custody** and annual management fees. It will also include an accrual for other costs, such as audit fees and legal expenses.
NAV calculation	• The calculation of the NAV per share can then be completed and the prices to be used agreed. • Details of the NAV and the fund's prices can then be distributed to users.

It should be noted that the table above summarises what is, in fact, a complex process.

The market price of many assets can be identified as the last price they traded on an exchange but not all assets can be valued in this way.

- Obtaining accurate prices for highly liquid shares can be straightforward. With a highly liquid stock, the quoted **bid-offer spread** is likely to give an acceptable indication of the value of the holding. With a small cap share, the issue would be significantly greater as spreads are much wider and there is far less liquidity.
- The issue is potentially greater in bonds where there can be even less liquidity. Bonds are often traded directly with brokers, and so are valued using broker quotes rather than traded prices.
- Other assets may be infrequently traded on an exchange or with brokers, in which case the last traded price or broker quote might be stale.

As a result, in the absence of traded or quoted market prices, an investment fund may rely on historic prices or it has to evaluate fair prices using various models.

Independent Price Valuation (IPV)

Funds are priced on the basis of independent price valuation (IPV), that is, a price which is obtained from the market and verified against independent third-party sources, such as Bloomberg or FactSet. If an IPV is not available or the fund manager reasonably believes it is not accurate, it may use fair value pricing.

Fair Value Pricing

Where the fund manager has reasonable grounds to believe that no reliable price exists for a security, or where the most recent price available does not reflect their best estimate of the value of a security at the valuation point, it will typically value an investment at a price which, in its opinion, reflects a fair and reasonable price for that investment – the fair value price.

Fair value is an estimate of what an asset is worth on the open market. It applies in accounting and refers to the value of an asset or a liability for which a market price cannot be readily determined. The goal of fair value measurement is for funds to estimate, as best as possible, the prices at which the positions they currently hold would change hands in orderly transactions based on current information and conditions.

There are several potential issues, however, in using price estimates within a portfolio:

- The fair value price is just an estimate; it could end up being too high or too low, resulting in a mispriced fund.
- Fair value pricing is subjective as different fund managers may have different criteria and modelling for establishing a price. As a result, when the fair value pricing approach is triggered, the same security may end up with different prices.
- The process could also be open to fraud if a security is purposely mispriced.

1.1.3 Fund Pricing and Dealing

As mentioned above, the valuation process aims to produce a NAV of a fund. Once this is completed, the NAV per share can be calculated and the figures are then used as the basis for the prices at which investors deal.

In simple terms, the NAV of a fund is its assets less liabilities. Its assets include the quoted securities held, the gain or loss on any open derivative positions, the cash held for investment and any dividend income. Liabilities include any losses on open derivatives positions, payments due for unsettled purchases and any expenses due.

In summary, the NAV of a fund is calculated as follows:

Portfolio value	Value of underlying investments.
Plus: Cash	Cash balances held for investment or as part of the fund's asset allocation.
Plus: Income held for distribution	Dividends and interest received on the investment portfolio that have yet to be distributed to shareholders.
Total asset value	
Less: Expense accruals	Accrual of known expenses and charges.
NAV	

The first stage is to value the assets in the portfolio. Assume a fund has just five quoted holdings that can be easily valued plus cash and dividend income. The following table shows the five holdings and the closing bid and offer prices for each security. To this has been added the uninvested cash held in the portfolio and the dividends received that have yet to be distributed.

ABC Fund		Bid		Offer	
Portfolio	Shares	Price per share	Value	Price per share	Value
1,000,000	ABC ords	45.95	45,950,000	46.15	46,150,000
1,000,000	DEF ords	67.75	67,750,000	67.90	67,900,000
1,000,000	GHI ords	14.90	14,900,000	14.95	14,950,000
1,000,000	JKL ords	36.50	36,500,000	36.75	36,750,000
1,000,000	MNO ords	70.35	70,350,000	70.40	70,400,000
Total Portfolio value			235,450,000		236,150,000
Cash			5,000,000		5,000,000
			240,450,000		241,150,000
Income for distribution			750,000		750,000
Total Asset Value			241,200,000		241,900,000

The next stage is to add the liabilities to the valuation. These include expenses, such as the fund management fee and the fees due to the other parties to a fund, such as a depositary, custodian, auditor or lawyer. An allowance will also be made for the broking charges that would be involved in either selling or buying all of the securities – this is known as the notional dealing charge and is based on the prior period of fund dealing costs.

Expenses are accounted for on an accrual basis, so the figure in the valuation will include an accrual for costs that have been incurred up to that point but not yet paid. If expenses were taken just when they were due, this would potentially give some purchasers or sellers an advantage and disadvantage over others. Instead, the costs and charges are estimated at the start of the month and accrued daily so that they are spread over each trading day. Back-testing must be undertaken to make sure appropriate accruals are being used (or for a new fund, appropriate estimates may be used based on similar funds).

ABC Fund		Bid			Offer	
Portfolio		Price per share	Value		Price per share	Value
1,000,000	ABC ords	45.95	45,950,000		46.15	46,150,000
1,000,000	DEF ords	67.75	67,750,000		67.90	67,900,000
1,000,000	GHI ords	14.90	14,900,000		14.95	14,950,000
1,000,000	JKL ords	36.50	36,500,000		36.75	36,750,000
1,000,000	MNO ords	70.35	70,350,000		70.40	70,400,000
Total Portfolio value			235,450,000			236,150,000
Cash			5,000,000			5,000,000
			240,450,000			241,150,000
Income for distribution			750,000			750,000
Total Asset Value			241,200,000			241,900,000
			7,063,500			11,807,500
			325,000			325,000
			233,811,500			254,032,500

The resulting NAV is then divided by the number of shares in issue to provide the NAV per share.

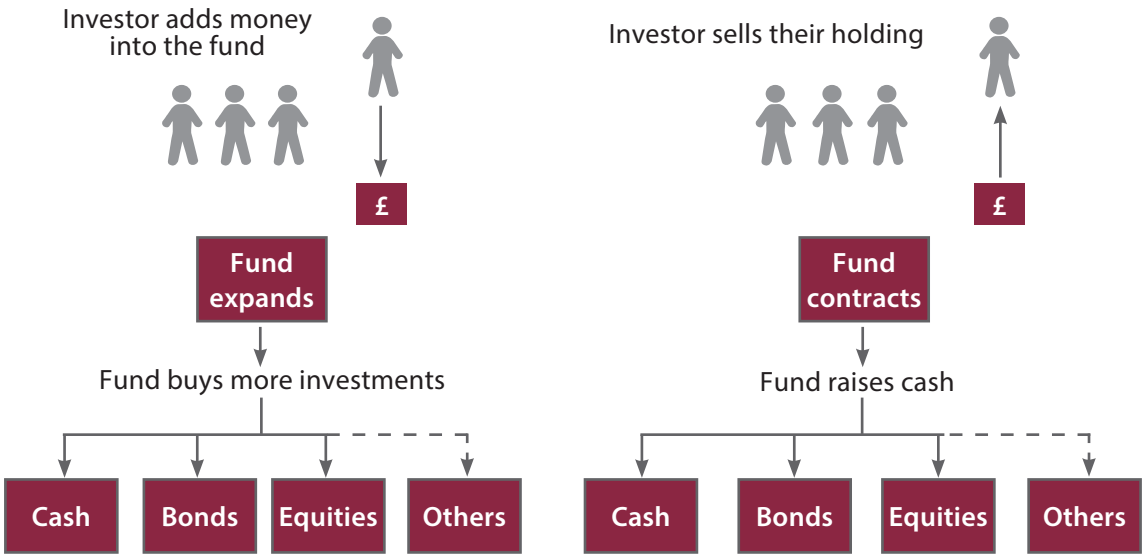
The actual price paid by an investor will then depend on whether the investment fund is an open-end fund or a closed-end fund, but it will take account of the NAV per share. An investor wishing to buy or sell shares in an open-end investment does so through the fund at prices set by the fund. An investor wishing to buy or sell shares in a closed-end fund does so through the stock market and the price will be determined, as with all shares, by demand and supply. We will look at how those prices are calculated in subsequent sections.

1.1.4 Open-End versus Closed-End Funds

Investment funds can be either open-end or closed-end.

An open-end fund can expand and contract depending upon investor demand, as the following diagram illustrates.

Open-End Fund

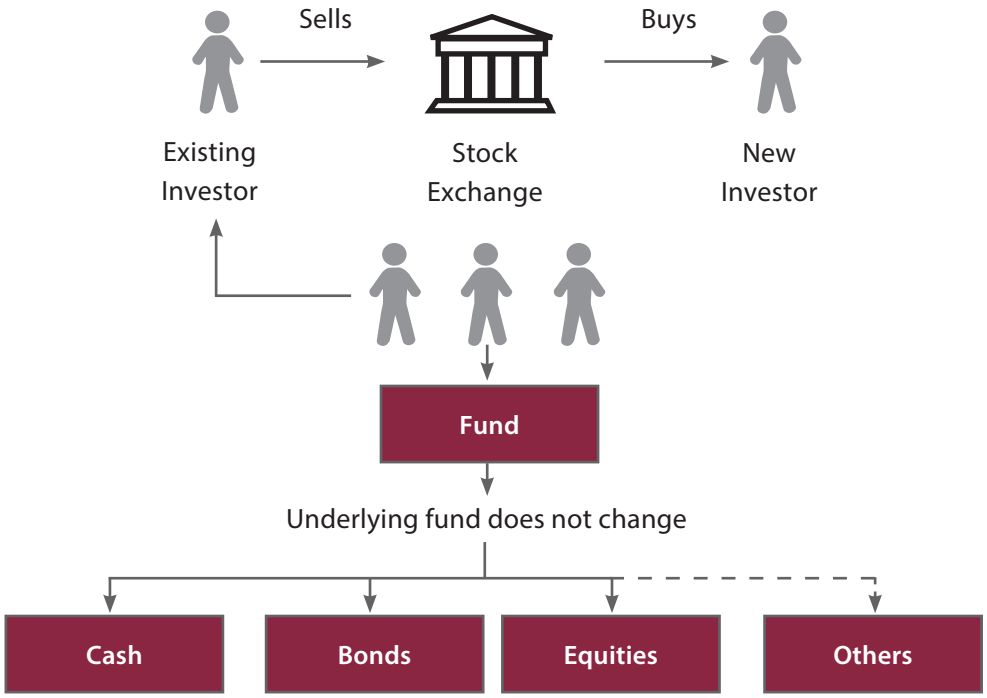


When investors are adding new cash into the fund, the fund can create new shares to represent that investment, and the cash is invested in accordance with the fund's investment objectives. Conversely, when investors are selling their shares, the fund raises cash to pay to the investor and cancels their shares. In this way, the share capital of the fund can expand and contract, hence why they are also known as 'investment companies with variable capital'.

A closed-end fund has a fixed capital base in much the same way as any other company. It will typically be listed on a stock exchange (such as an investment trust) and so if an investor wishes to buy or sell shares, they place an order with their broker who executes it with another counterparty. An investor acquiring new shares for the first time is, therefore, buying existing shares from another investor who is selling.

The following diagram illustrates this difference.

Closed-End Fund



1.2 Uses of Investment Funds

The underlying concept of an investment fund is that the investor buys a proportionate share in the risks and rewards of a collectively owned pool of managed assets. The investment product the investor buys into will have certain common characteristics:

- A pooling of resources to achieve sufficient size for portfolio **diversification**, reduced costs and cost-efficient trading. The individual investor's risk is reduced by the wide spread of investments in the underlying portfolio.
- A formal legal and governance structure for the operation of the fund and for investor protection.
- Professional portfolio management to execute a defined investment strategy.
- Investors can gain access to geographical markets, asset classes or investment strategies which might otherwise be difficult to achieve.

Investment funds offer solutions for both retail and institutional investors. They are designed to meet various investor needs:

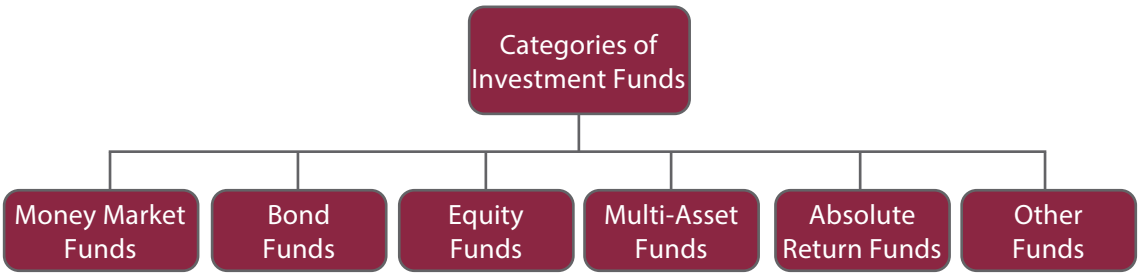
- Income maximisation through funds that invest in bonds or companies that pay high dividends.
- Capital appreciation through funds that invest in companies with growth potential.
- Balanced funds that combine growth investments with more secure companies and bonds.
- Geographical diversification through funds that specialise in investment globally, a region or in a single market.
- Investment specialisation through funds that invest in companies in specific sectors, such as technology, or in specific themes, such as companies designing solutions to the effect of climate change.

These are only a selection of the possible themes that a fund may concentrate on. The number of investment funds globally is huge – the Investment Company Institute in the US estimates that there were more than 144,000 regulated funds in 2024 – meaning that there is a vast number of choices for investors.

1.3 Types of Investment Fund

There are many different types of investment fund; indeed, there are so many that some way of categorising them is essential when trying to identify suitable funds. There is no single method used globally to classify funds so we will look at some of the main generic types that are encountered and how they are classified; for this, we will use the classifications used by the European Fund and Asset Management Association (EFAMA) system that is used across Europe.

In very general terms, it is possible to identify six main categories of investment fund based on the asset classes they invest in or the strategy they adopt:



However, there are many other types of fund that do not fit conveniently into any of the main categories, hence the need to recognise that further groupings are needed for other funds.

1.3.1 Money Market Funds

A money market fund is one that invests in cash and short-term money market instruments in order to provide relative safety of capital and a return commensurate with short-term interest rates.

Money market funds have certain distinguishing features and they are:

- the range of underlying investments, and whether these are restricted to, say, government securities or encompass a range of money market instruments
- the average maturity of the underlying investments in the fund
- the credit quality of the underlying investments
- whether they maintain their NAV at par or have a floating NAV, and
- money market funds pay dividends that generally reflect short-term interest rates and, historically, the returns for money market funds have been lower than for either bond or equity funds.

Money market funds are often classified according to either their underlying investments, as in the US, or by their average maturity, as in Europe.

Money Market Fund Classifications	
US	In the US, Securities and Exchange Commission (SEC) regulations state three categories of money market funds based on the investments held in the fund – government, prime, and municipal. • Government money market funds invest in government securities. • Prime money market funds are general purpose money market funds that invest in any eligible US dollar-denominated money market instrument. • Municipal money market funds invest in municipal securities whose interest is exempt from federal income tax.
Europe	In Europe, the regulatory definition of money market funds distinguishes between: • **short-term money market funds** – these operate a very short-weighted average maturity, with a maximum of 60 days, and • **money market funds** – these operate with a longer weighted average maturity of six months and a weighted average life of a maximum of 12 months.

As you can see, the primary driver in the classification is the relative credit quality of the underlying investments.

Money market funds will usually have further sub-classifications that distinguish constant NAV and variable NAV funds and the currency of the underlying investments.

1.3.2 Bond Funds

As bonds have a predictable stream of interest payments and the security of repayment of principal, they can play a significant role in the construction of a portfolio to meet the needs of an investor. Bond funds have different investment objectives and use different strategies and, to reflect this, can be categorised into different sectors based on their constituents and then further subdivided into categories to reflect their average maturity.

The typical categories are government, corporate, high-yield and aggregate bond funds. As an example, the European Fund and Asset Management Association (EFAMA) categorise the funds as follows:

Bond Fund Classifications	
Government bond funds	• Funds that invest at least 80% of their portfolio in government bonds.
Corporate bond funds	• Funds that invest at least 70% of their portfolio in corporate bonds.
High-yield bond funds	• Funds that invest between 30% and 70% of their portfolio in high-yield bonds.
Aggregate bond funds	• Funds that invest in a diversified portfolio of corporate, government and other fixed-income securities.

In each case, the sector is further subdivided into short, medium and long term based on the average **modified duration (MD)** of the portfolio:

- **Short term** – between one and three years.
- **Medium term** – between three and seven years.
- **Long term** – more than seven years.

There are also further classifications for other types of bond, such as inflation-linked bonds, floating-rate bonds, **emerging market** debt and flexible bond funds. The latter invest in a diversified basket of fixed-income securities and can adjust their credit quality, currency, emerging markets and interest rate exposure in a flexible manner.

1.3.3 Equity Funds

Equity funds represent the majority of open-end funds that are available. They are widely used in investment portfolios by both institutional and retail investors. There are funds that provide exposure to global stock markets, economic regions, such as Europe, the market of one country and specialist sectors, such as health care or technology.

Equity funds are typically classified by one or more of the following:

- geographic region – eg, global, the Americas, Asia Pacific, Europe and emerging markets
- country
- sector – communication services, consumer discretionary, consumer staples, energy, financials, health care, industrials, information technology, materials, equity real estate and utilities
- market capitalisation, eg, small cap.

Sector classification of equity funds typically follows the Global Industry Classification Standard (GICS) or the Industry Classification Benchmark (ICB).

- The GICS structure comprises 11 sectors, 24 industry groups, 68 industries, and 157 sub-industries. Industries can be classed by what they produce or by the markets that purchase their products and services. GICS sectors are more market oriented than production oriented. For instance, rather than try to create a clear distinction between consumer goods and consumer services, GICS divides the consumer economy into 'consumer discretionary' and 'consumer staples'. Each of these can accommodate goods and services, but in this case, analysts can distinguish companies based on their expected response to changes in **business cycles**.
- The ICB is a company classification system developed by Dow Jones and FTSE. It is a system that classifies both domestic and international stocks, with each company allocated to the subsector that most closely represents the nature of its business, based first and foremost on its primary source of revenue. The ICB is used by stock exchanges around the world.

Further details on GICS and ICB can be found in Chapter 8.

1.3.4 Multi-Asset Funds

Multi-asset funds invest in a portfolio of bonds, equities, cash and other instruments, such as property, commodities and alternative investments. Their key features are that investments are spread over a range of strategies, styles, sectors and regions which can help smooth out some market volatility by providing diversification. Many investors look to multi-asset funds to provide a lower-risk investment than a pure equity fund, but with a greater prospect for growth than a pure bond fund.

Multi-asset funds are typically differentiated by the geographic area they invest in, their approach to **asset allocation** and the base currency used for the portfolio. Asset allocation can be defensive, take a balanced approach, be aggressive or adopt a flexible approach and typically their asset allocation is defined by the percentage allocated to equities:

- **Defensive** – less than 35% exposure to equities.
- **Balanced** – between 35% and 65% equity exposure.
- **Aggressive** – more than 65% equity exposure.
- **Flexible** – can maintain a 100% exposure to any asset class for a period of time.

1.3.5 Absolute Return Funds

Absolute return funds are managed with the objective of generating a positive return over a cash benchmark, irrespective of market movements, and they are likely to make extensive use of derivatives to go short/long securities or the market as a whole.

These funds are seeking to achieve a positive return over time and can be contrasted with the relative return funds we have looked at so far. In general, a typical investment fund seeks to earn a better return than other funds in its sector or the market as a whole and its performance is benchmarked against an index or peer group performance. An absolute return fund seeks to make positive returns over a period of time regardless of market movement.

The category includes **hedge** funds and absolute return funds.

They are typically classified based on the investment strategy they adopt rather than the asset class they invest in, and include:

- directional strategies
- long/short funds
- relative value funds
- event-driven funds
- multi-strategy funds
- index trackers, and
- fund of funds.

1.3.6 Other Types of Funds

Inevitably, not all funds will fit into the above categories and so we need to have a further group that catches the remaining ones. Among others, these include:

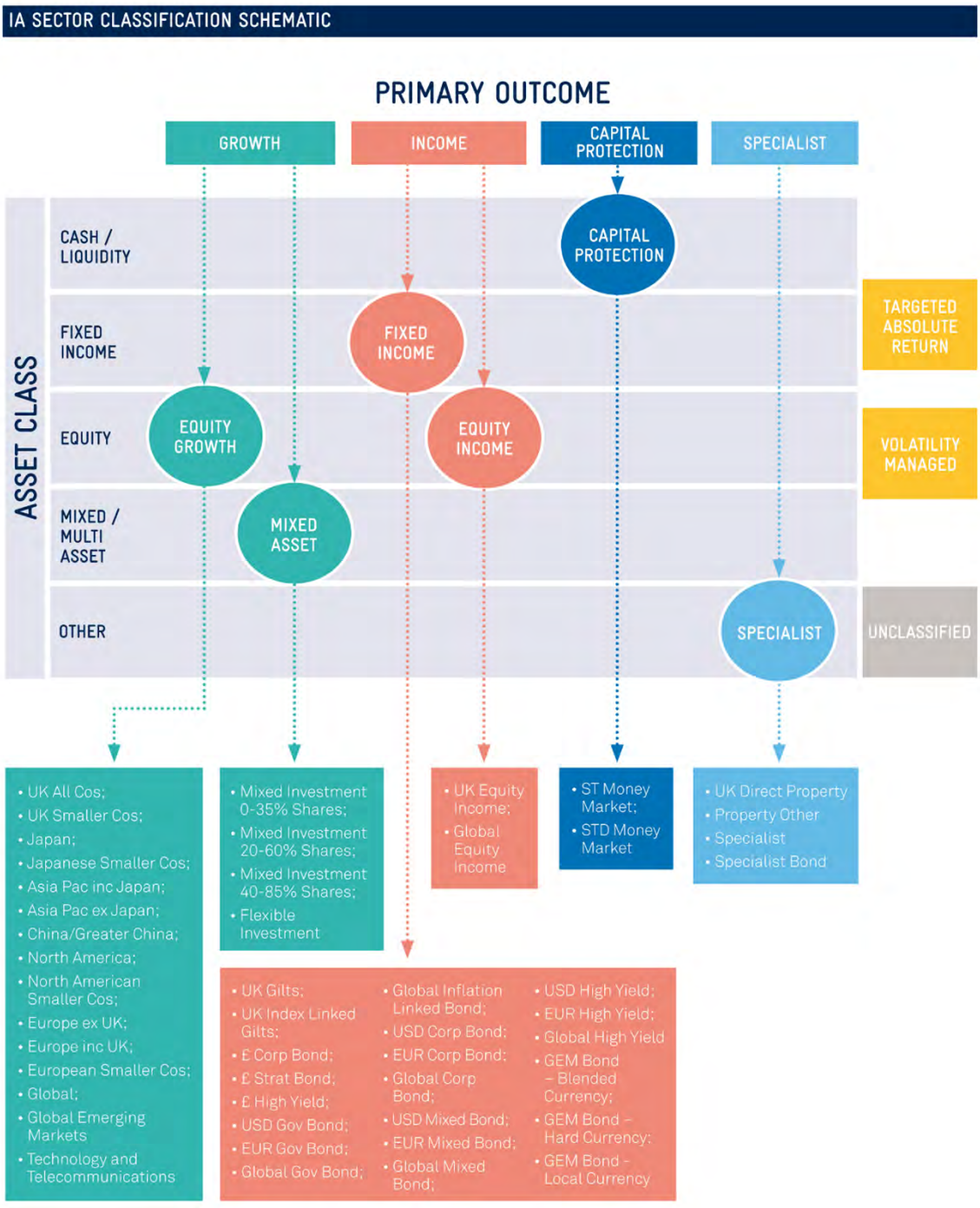
- open-end real estate funds
- closed-end real estate funds
- real estate investment trusts (REITs)
- infrastructure funds
- commodity funds
- guaranteed funds and lifecycle or target date funds, and
- private equity and venture capital.

1.3.7 Fund Classification Systems

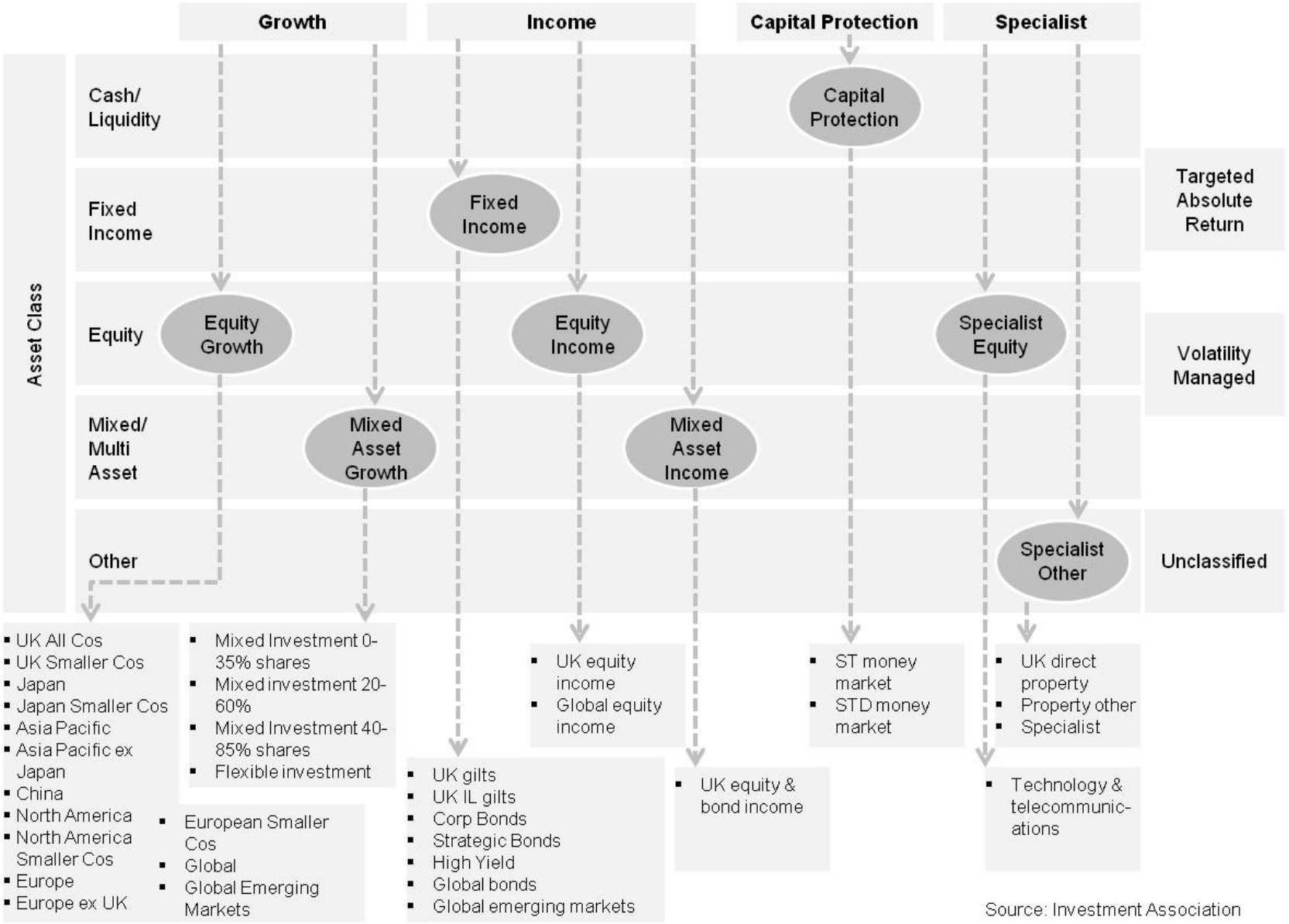
Given the vast array of funds available, a methodology is needed to group funds into comparable categories to allow meaningful comparisons between them and their sector to be undertaken.

As an example, the following diagram shows the fund sectors used in the UK for open-end funds which is maintained by the Investment Association (IA), the trade body for the UK's fund management industry. You will see that the traditional asset class groupings that we looked at earlier are shown under investment outcomes of growth, income and capital protection, with a specialist sector at the end for funds that do not meet the criteria. The sectors within each asset class are then shown under the respective investment outcome.

UK Investment Fund Sectors



UK Investment Fund Sectors (simplified version)



Source: Investment Association

Fund and performance data is collected for each of the sectors which then enable a firm or individual to identify the funds that make up that sector, the average performance of funds in each sector and which funds are the best and worst performing.

A fund classification system, however, can vary significantly from country to country, and also between one data provider and another. It is important to understand, therefore, the design of such classification systems and the criteria that are used to determine which sector a fund fits into.

2. Open-End Investment Funds

Learning Objective

3.1.1 Be able to analyse the main types, purposes, common investment characteristics, risks and behaviours of funds, collectives and other investment products available globally

An open-end fund is a pooled investment vehicle where investors pool their money with that of others, and the combined fund is then managed by a professional fund management company in accordance with a stated investment strategy.

A feature that distinguishes these funds from other investment products or solutions is that the investor buys shares in the fund directly from the fund rather than from existing shareholders and the fund can create new shares or redeem shares in response to investor demand.

2.1 Open-End Funds

The concept of an open-end fund started in the US with mutual funds. These were investment vehicles whose share capital could expand and contract based on investor demand.

Open-end funds are now found globally and are known by different names in different markets and, as a result, have been given the generic title of 'collective investment schemes' or 'CISs'. The International Organization of Securities Commissions' (IOSCO) definition of a CIS which is used by many international organisations is an instrument that:

- invests in transferable securities
- is publicly marketed, and
- is open-end.

The term CIS or collective investment scheme can, however, be used quite loosely and may mean any type of pooled investment fund depending on the context in which it is used.

Open-end funds are known by different names in different markets; the following table shows some of the commonly encountered names that are seen.

Open-End Funds	
Australia	• Retail investment funds take two forms, a unit trust or a Corporate Collective Investment Vehicle (CCIV) introduced in 2022 (similar to a OEIC).
China	• A retail fund is typically set up as a unit trust, under which the fund manager and the custodian bank act as co-trustees of the fund for the benefit of the fund's unitholders.
Europe	• Europe has different types of funds but the most well known internationally are those that can be marketed cross-border as a result of the UCITS rules (see later section). • The corporate version is known as a *Société d'Investissement à Capital Variable* (SICAV) or a variable capital company. • There are a variety of other structures in use, some of them being neither trust nor corporate, but purely based on contractual arrangements, such as *Fonds Commun de Placement* (FCP).
UK	• In the UK, they take the legal form of unit trusts, open-end investment companies (OEICs) or authorised contractual schemes (ACSs).
US	• In the US, the term 'mutual fund' is used.

An investor is likely to come across a range of different types of investment fund, as many are now established in one country and then marketed internationally. An ETF can be a type of open-end fund, but has different characteristics which are considered later in section 3.

2.2 Legal Structure of Open-End Funds

Despite the different names that are used, there are three basic legal structures that are used for CISs – corporate, trust and contractual forms.

Legal Structure of CISs	
Corporate Form	• In the corporate form, the CIS is established as a separate corporate entity in which the assets are owned by the investment company and the investors are the shareholders of the investment company. • The investment company will have variable capital – in other words, its capital base can expand or contract in accordance with demand. For this reason, it is known as an 'investment company with variable capital' or ICVC. • While the law in the US recognises other forms of CIS, the vast majority are open-end mutual funds organised in corporate form. A SICAV and an OEIC are also organised in the same way.

Legal Structure of CISs	
Trust form	• A trust is an Anglo-Saxon law concept in which an identified group of assets is constituted and managed by trustees for the benefit of another party (the beneficiary). • A trust is created by a legal deed between the manager of the trust and the trustee. The investor is a beneficiary of the trust and owns units of the trust. • The trust form is found in the UK as a unit trust and in Australia, Singapore and New Zealand. In Canada, most CISs initially were organised in corporate form, but now most are organised as trusts.
Contractual form	• In the contractual form, a legal contract is used to create the fund by the investment management company. • The investor enters into a contract with an investment management company, which agrees to purchase a portfolio of securities and manage those securities on behalf of the final investor. • The investor owns a proportional share of the portfolio and their holdings are represented by units. • Denmark, Germany, Portugal, Sweden, Switzerland and more recently, the UK, have the contractual form.

The laws of some countries allow for only one legal form for collective investments, while others allow for more than one. Luxembourg, which is the largest centre for fund domicile outside of the US, recognises both corporate and contractual forms – a SICAV is the corporate form and the FCP is the contractual one.

2.3 Corporate Governance and Investor Protection

A further characteristic of the different types of funds is their arrangements for corporate governance and investor protection.

The IOSCO identifies a number of corporate governance principles that have the ultimate goal of investor protection and which should be part of the regulations covering CISs. Investor protection in this context is not to prevent investors suffering any market loss, but refers to enabling investors to understand the risks involved with a specific fund and the prevention of misleading, manipulative and fraudulent practices.

IOSCO Principles for CISs	
Independent review and oversight	• CISs should be subject to review and oversight of their activities by an entity that is independent of the fund.
Legal and regulatory framework	• The legal and regulatory framework should impose standards relating to fiduciary obligations, the operation of the fund, disclosure of relevant information, conflicts of interest and financial reporting.

IOSCO Principles for CISs	
Investor rights	• The fundamental rights of investors may include, but are not limited to, operation of the fund for the benefit of investors, entitlement to certain information about the fund, rights to exit the fund, and, possibly, the right to vote on certain matters.
Internal controls	• Appropriate internal controls should be in place to ensure the fund is operated in accordance with applicable legal requirements and for the benefit of investors.
Transparency	• CISs should provide investors and markets with information about their operations, including areas such as fees, expenses, investment activity and personnel. Transparency should promote, among other things, market competition among CISs and investors' understanding of the risks presented by their CIS investments.
Market and industry participants	• Market and industry participants should develop codes of conduct, assist in the development of better rules and standards, help educate investors and help ensure that investors choose funds that are appropriate to their needs.

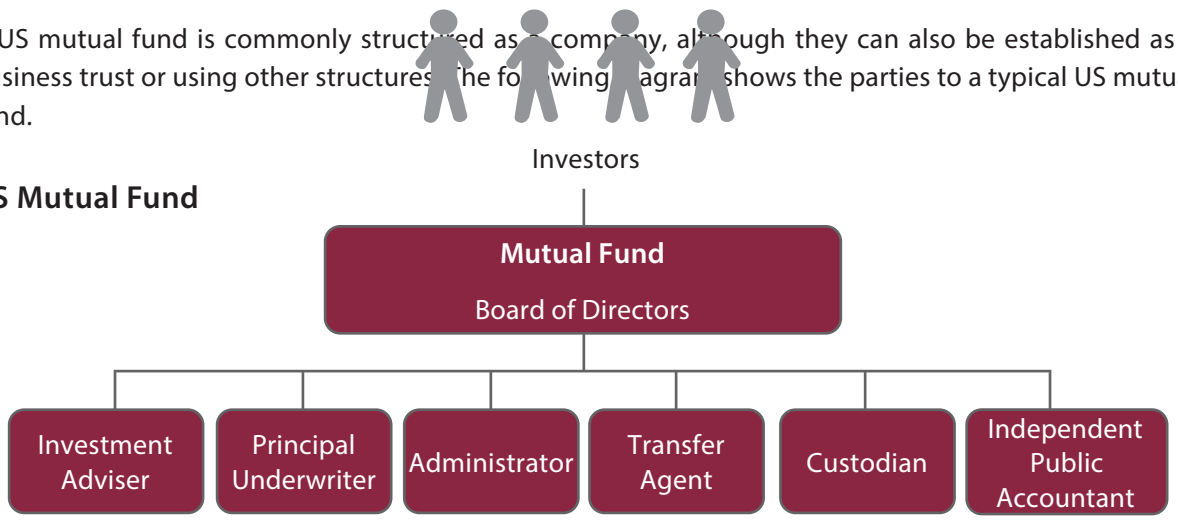
To summarise these principles, IOSCO defines corporate governance of CISs as:

> *'a framework for the organisation and operation of CISs that seeks to ensure that CISs are organised and operated efficiently and exclusively in the interests of CIS investors, and not in the interests of CIS insiders'.*

There are different models in operation which we will look at below – the one used in the US for mutual funds, the model used in continental Europe and the model based on trusts. In practice, some countries operate each of these models depending upon the type of CIS.

2.3.1 US Corporate Model

A US mutual fund is commonly structured as a company, although they can also be established as a business trust or using other structures. The following diagram shows the parties to a typical US mutual fund.



All mutual funds are required by law to have a board of directors (sometimes, referred to as a board of trustees). The function of the board of directors is to represent the interests of the shareholders – in other words, the investors – and to supervise the other parties involved. Committees on audit, pricing, legal compliance and nominations are usually organised to supervise the activities undertaken.

A significant percentage of directors must be independent; legislation requires that at least 40% are independent, but in practice, most funds have an overwhelming majority of independent directors. The Investment Company Act of 1940 imposes specific responsibilities on independent directors and looks to them to monitor potential conflicts of interest between the fund and its adviser. According to the Supreme Court, the independent directors have 'the primary responsibility' for looking after the interests of the fund's shareholders and serve as 'independent watchdogs' who 'furnish an independent check' upon the management of the fund.

Directors have a **fiduciary duty** to represent the interests of the fund's shareholders and are subject to statutory duties of loyalty and care. The duty of care requires directors to perform their duties in good faith, in a manner reasonably believed to be in the best interests of the fund and with the degree of care that an ordinarily prudent person in a similar position would exercise under similar circumstances.

Directors must perform their responsibilities with the care expected of a prudent person. They must exercise the care that a reasonably prudent person would take with their own business. They are expected to exercise sound business judgment, establish procedures and perform oversight and review functions, including evaluating the performance of the investment adviser, principal **underwriter** and other parties that perform services for the fund. Directors also owe a duty of undivided loyalty to the fund.

The role of the other parties is as follows:

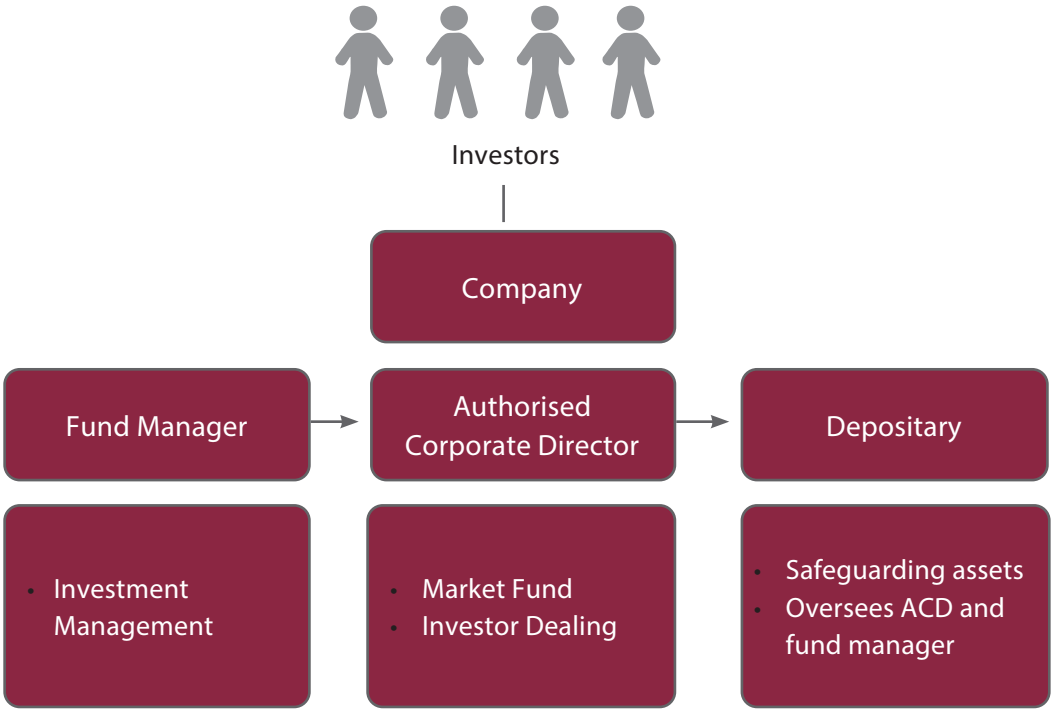
- **Investment adviser** – manages the fund's portfolio according to the objectives and policies described in the fund's prospectus. An investment adviser is often the fund's first shareholder who creates the fund by providing seed money.
- **Principal underwriter** – sells fund shares either directly to the public or through other firms such as **broker-dealers**.
- **Administrator** – oversees the performance of the other companies that provide services to the fund and ensures that the fund's operations comply with regulatory requirements.
- **Transfer agent** – maintains the shareholder's register, executes investor's transactions, distributes dividends and issues statements.
- **Custodian** – holds the fund's assets separate from the fund to protect shareholder's interests. Custodial duties include receiving dividends and interest for safekeeping, paying the fund's expenses, tracking loaned securities and reporting all cash transactions.
- **Independent public accountant** – reports to a fund's audit committee, which is part of the board. They are responsible for conducting audits on the fund's financial statements. A comprehensive audit includes a review of how the fund controls its reporting and how it implements measures to keep the fund's securities safe.

2.3.2 European Corporate Model

This model refers to funds established in Europe under the UCITS rules which involve the appointment of a depositary that is responsible for oversight of the CIS and for custody of the fund's assets. It is the structure used for SICAVs and for OEICs in the UK; such funds are also referred to as investment companies with variable capital to reflect their open-end nature.

The following diagram shows the parties to this type of fund.

Investment Company with Variable Capital



The legal entity for the CIS is a company, and its three main parties are an authorised corporate director (ACD), the fund manager and a depositary.

- The ACD is a company that specialises in the management of this type of CIS, as opposed to an individual.
- The ACD requires regulatory **authorisation** to undertake the role and is responsible for the day-to-day management of the fund including managing the investments, valuing and pricing the fund and dealing with investors.
- It may undertake these activities itself or delegate them to specialist third parties.
- The fund manager is responsible for marketing the fund and managing the investment portfolio.
- The depositary is a specialised company that requires regulatory authorisation to undertake its role.
- The depositary is an independent company that holds the fund's investments and is responsible for their safekeeping on behalf of the fund's shareholders.
- It also oversees the activities of the ACD and the fund manager.

The ACD has responsibility for ensuring compliance with investor protection rules. They are required to make sure that customers have access to up-to-date information about the fund before they buy

shares, are able to participate in the decisions on key issues concerning the fund, and are sent regular and relevant information. Importantly, it must ensure that it can effectively monitor and supervise the actions of any parties it appoints and, where necessary, terminate contracts, such as with the fund management firm.

The depositary has the role of monitoring and overseeing the actions of the ACD to ensure the scheme is managed in accordance with its objectives and relevant rules. This includes:

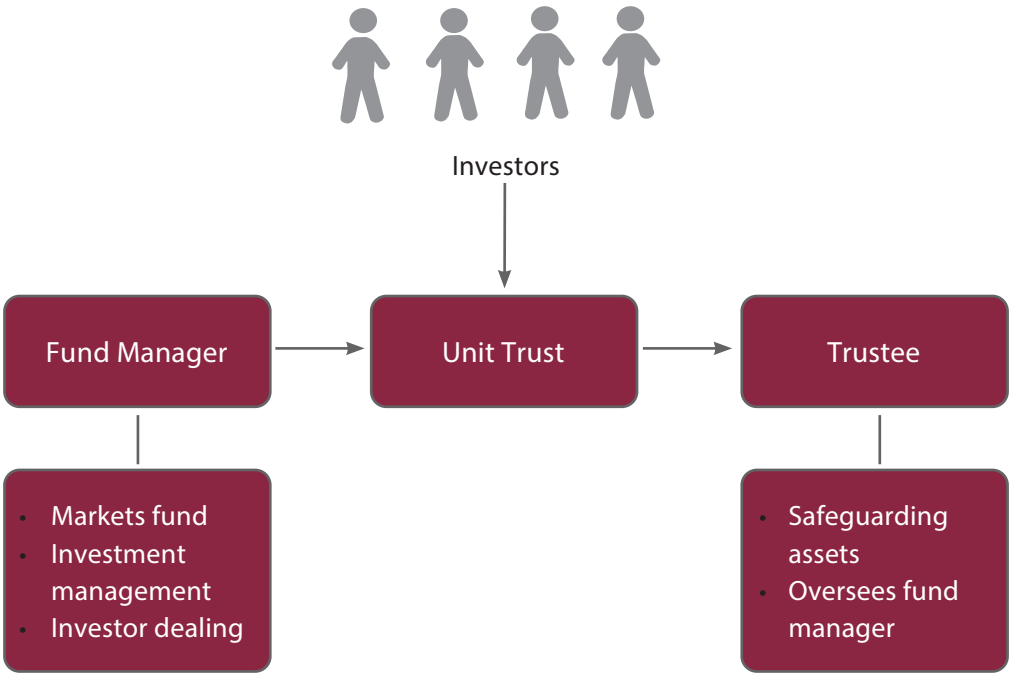
- safekeeping of the fund's assets, including monitoring the use of the fund's assets to ensure they are only used for their intended purpose and where issues arise require the ACD to reimburse the fund
- ensuring that assets can be accurately valued, that the NAV of the fund is correctly calculated and that fund dealing prices are accurate
- making sure that dealings in the fund's shares take place in accordance with procedures and regulatory requirements
- reporting breaches to the regulator unless they will not be materially significant, and
- reporting annually to shareholders whether the investment and borrowing, valuation and pricing, dealing income and accounting provisions have not been complied with.

In addition, the depositary has a fiduciary duty associated with the control it has over the fund's property and, as such, it is liable to account for any losses in the event of its negligence.

2.3.3 Trust Model

A fund that operates a trust structure is better known as a unit trust. To see the features of these types of fund, we will use the ones found in the UK as an example.

You will recall from chapter 2 that a trust is a common law concept where a legal relationship is created whereby assets are placed under the control of a trustee for the benefit of a beneficiary or for a specified purpose. The following diagram shows the parties to a unit trust.



With a unit trust, a fund management group wishing to establish a new fund will enter into an arrangement with a trustee and execute a trust deed to create the unit trust following regulatory approval:

- The role of the fund management group is to market the fund to potential investors and manage all other aspects.
- They will act as the fund manager and be responsible for managing the investments held within the fund in accordance with the fund's investment strategy which will be set out in the trust deed and associated documents, including a fund prospectus.
- When an investor wishes to invest money into the fund, they buy units in the fund, in simple terms, these are the same as shares in a mutual fund. The investor pays money to the fund manager to buy units in the fund and when they wish to sell, they instruct the fund manager to redeem the units who then pays the proceeds to the investor.
- The role of the trustee is to safeguard the interests of the investor.
- They will issue new units in the fund only on receipt of the cash from the fund manager, and redeem units and pay the cash proceeds only when they have the returned documentation from the investor.
- The trustee holds the assets of the trust in their name as legal owner and settles transactions, such as purchases and sales, on receipt of valid instructions from the fund manager.
- They oversee the management functions undertaken by the fund manager to ensure that they are operating within the parameters set by the trust deed and prospectus as well as relevant rules and laws.

2.4 Characteristics of Open-End Funds

Next, we will look at some of the main characteristics of open-end funds.

2.4.1 Share Capital

An open-end fund is one where the capital can expand or contract in response to investor demand.

The fund manager is responsible for arranging for the issue and the **cancellation** of shares for the fund, and is permitted to sell and redeem them for its own account. The way in which this should operate is best seen by looking at the creation and cancellation process.

Creation and Cancellation Process

Investors place orders to buy or redeem shares with the fund manager responsible for management of the fund. The fund manager then gives instructions to the depositary or trustees to create new shares, or cancel existing ones depending upon the deals placed by the investors.

The depositary or trustee will only issue new shares on receipt of payment for those shares and, where shares are cancelled, will only pay funds to the fund manager on receiving evidence of transfer of legal title to the shares.

If the scheme is structured as a unit trust, the authorised fund manager can also hold onto units to meet potential demand and when it does so, it will hold these shares in the 'manager's box'. This means that a fund can, for example, accept instructions from investors to sell, and then take those shares and use them to meet demand from other investors and so, potentially, make a profit in the process.

This gives rise to a potential conflict of interest between those of the fund manager on one side and its investors on the other. As a result, regulations will prescribe a series of conditions that must be met to prevent the fund manager from manipulating orders and making hidden profits. They also require the trustee to carefully supervise the process.

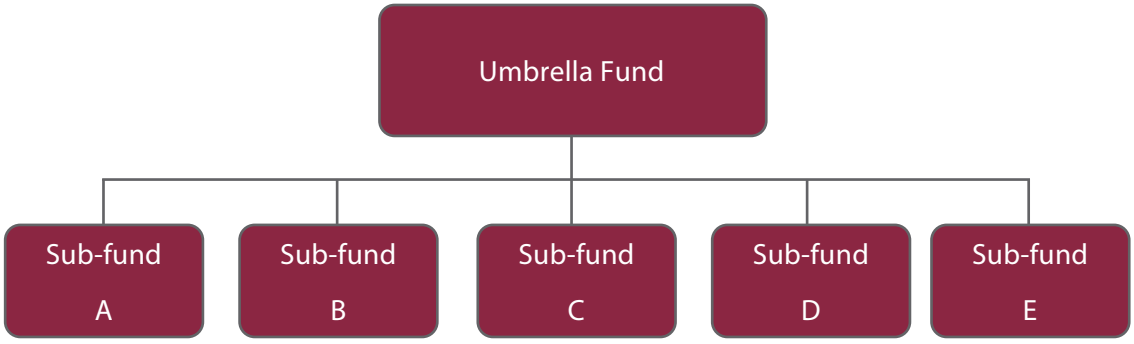
2.4.2 Scheme Structure

Open-end funds, as we have seen, can be structured as a company, a trust, or using a contract. An investment in these is represented by either shares, if it is a company, or units, if it is a trust or contract structure. In practice, the term 'shares' is often used to describe both.

Umbrella or Series Structures

In Europe, an open-end fund can be structured as a single fund or as an umbrella fund. An umbrella fund is one that has a single legal entity but has several distinct sub-funds which in effect trade as individual investment funds. The same structure is used in many other countries as well, such as in Australia and Singapore. This is shown in the following diagram.

Umbrella Fund



An umbrella fund allows a fund to create compartments so that each sub-fund can provide different investment strategies or rights to investors. Legislation provides for segregated liability between the funds, so that the failure of one sub-fund will not affect the other sub-funds which will not be liable for the losses.

In the US, there is a similar arrangement known as a 'series' fund. If a fund sponsor plans to offer more than one registered investment company, it must decide how it will create those portfolios. Structuring these as individual funds offers little advantage and, instead, a sponsor may use a single legal entity to offer multiple portfolios or 'series' of shares, each having different investment objectives, policies, and potential investors – a 'series fund'.

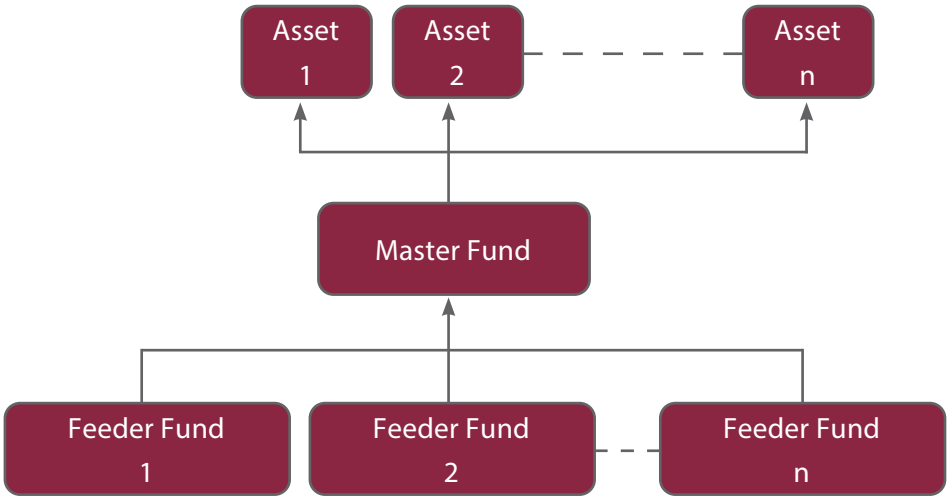
The advantage of an umbrella fund is that sub-funds can be added without the need to create a new legal entity each time a new fund is launched. In theory, the costs of administering an umbrella fund

should be lower than a series of discrete single funds as only one constitutional document and one set of accounts is required and there should be **economies of scale** through being able to share regulatory, audit and legal fees across the sub-funds.

However, maintaining too many sub-funds in the same entity can cause administrative difficulties in handling board meetings and preparing and filing shareholder reports. As a result, many fund groups with a large number of funds use several umbrella funds or series funds, and often having different fiscal year-ends.

Master-Feeder Structures

An umbrella fund can also be structured using a master-feeder structure. This type of structure allows multiple funds to pool their funds to access the same investment strategy as part of a bigger investment pool. The following diagram illustrates its structure.

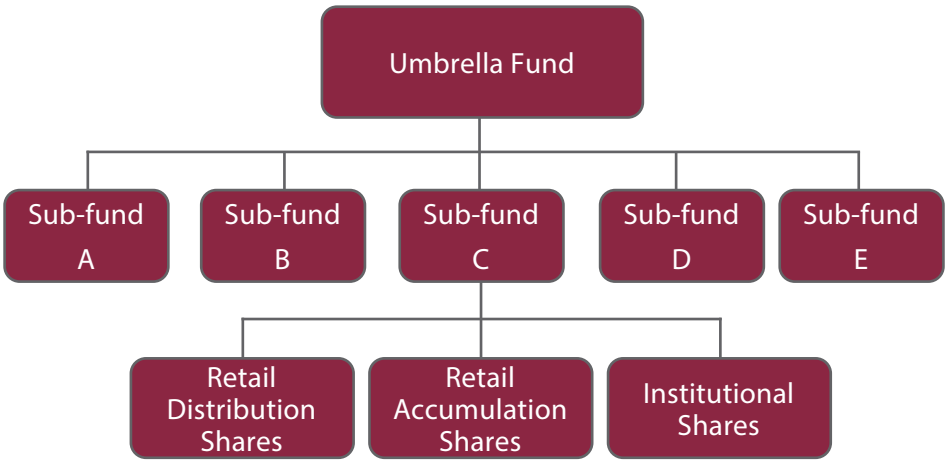


The master-feeder structure basically divides the functions of the traditional investment fund into two parts. Public investors invest in the feeder funds and the feeder funds invest in the master fund which, in turn, invests in the individual securities. Portfolio management and custody functions occur at the master-fund level. Distribution, shareholder servicing, and transfer agent functions are focused at the feeder-fund level. Master-feeder structures can be used in a situation where marketing rules of different jurisdictions are varied, enabling funds to be offered in different markets more efficiently.

Share Classes

An open-end fund can have more than one type of share in issue. These are known as share classes or in the US as multi-class funds.

Open-end funds can offer multiple share classes designed to meet the needs of different types of investor, such as retail and institutional investors. Common types of share class include income shares for investors who wish to receive income distributions and **accumulation units or shares** for investors who wish income to be reinvested. Other types include currency class units and units designed for different types of investor such as institutional and retail.



Funds will also have a variety of other share classes, each of which carry different fee charges. Institutional investment in funds is clearly going to be significantly larger than any retail investment. As a result, most funds have different share classes for retail and institutional investors and, hence, pricing structures and performances will be different.

Institutional share classes will usually carry lower charges than comparable retail funds. Institutional share classes are also used to restrict access to certain types of investment strategy to investors who can qualify as institutional or professional investors.

In the US, multi-share classes are also used to determine what fees are payable by investors (and increasingly so in the UK).

2.4.3 Marketing of Open-End Funds

Open-end investment funds must be authorised by the regulator and meet specific standards before they can be marketed. As well as authorising domestic funds, regulators may also recognise overseas funds as meeting the required standards which then allows them to be marketed to the general public in that country.

Europe

A significant example of this is UCITS funds. Investment funds that are authorised for sale across Europe are referred to as UCITS which is the acronym used for an EU directive whose full title is Undertakings for Collective Investment in Transferable Securities.

UCITS legislation provides a framework of investor protection and product control, which allows open-end investment funds to be promoted to the general public across the EU, irrespective of the member state that a scheme is authorised in. Therefore, once authorised in one EU country, a UCITS fund can be freely marketed across the whole EU, subject to regulatory supervision by its home country regulator.

The original directive was issued in 1985 and established a set of EU-wide rules governing CISs. Since then, further directives have been issued which broadened the range of assets in which a fund can invest. Such undertakings must comply with detailed requirements to ensure an adequate spread of risk among their underlying investments and a high degree of liquidity to enable investors to redeem their holdings on demand.

The rationale behind the directives is that allowing funds to be sold across borders will reduce the costs involved and improve customer choice. The world's major investment houses have European hubs where their funds are domiciled so that they can be sold freely across Europe. Internationally, compliance with UCITS rules is seen as a sign of sound investor protection and this has enabled the large fund management groups to establish funds in, say, Luxembourg, and then market them not only across Europe but also internationally.

Since it was first introduced in Europe in 1985, UCITS has evolved materially as a product and has become a successful international brand. UCITS funds have become a global standard, recognised for the high level of investor protection, transparency and regulatory oversight that they provide and they are widely used by fund managers globally and recognised by European and Asian investors. While the UK is no longer a member state of the EU, the term 'UCITS' remains important in the categorisation of CISs and their associated rules.

Non-UCITS Retail Schemes

These are funds (known as NURSs) which are similar to that of a UCITS fund, but have wider investment powers and, therefore, do not comply with the UCITS requirements. A wealth manager should review the investment powers of such funds more closely given their potential wider scope, particularly as there are different types of NURS funds.

2.4.4 Investor Documentation

Operators of investment funds are required to produce a prospectus. This provides comprehensive information to investors and their advisers, allowing them to make an informed decision before investing in a fund. It must be kept up to date and made available without charge.

A prospectus is a very detailed document that can easily run into over a hundred pages of information and so is unlikely to be read or understood by the average investor.

In Europe, regulations require UCITS funds to produce a key investor information document (KIID). The KIID must be clearly identifiable as such and follow a required format so that there is clear consistency across the whole range of UCITS funds in all member states. One must be produced for each sub-fund.

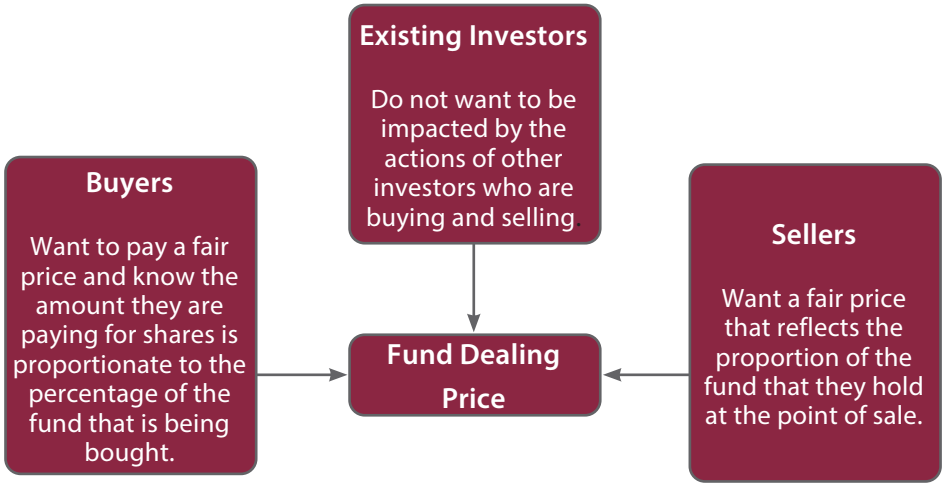
The KIID is discussed later in section 5.5.1

2.4.5 Pricing and Dealing

The prices at which open-end funds are bought and sold are based on the value of the fund's underlying investments – its NAV.

There are various pricing methodologies in use. The fundamental aim of a pricing methodology is to ensure investors deal at a price that truly reflects the value of the scheme's assets and recognises that each unit or share represents a proportional part of the fund. The methodology should recognise the competing demands of the existing investors in the fund with those who want to buy and those who want to sell their units.

Pricing Methodologies



We will consider three examples in order to explore how the prices are calculated for different fund types.

Dual Pricing

Where a fund is dual priced, the underlying investments are valued using the bid and offer prices for that investment from the market in which they are quoted. As well as taking a price that more accurately reflects what the investment might be bought or sold for, the NAV will also take into account dealing charges and any initial charges that the fund will make for investing in it. Unit trusts in the UK, for example, use this methodology.

We can see how this would operate by using the NAV valuation from earlier and then adding further steps. In that process, we valued the fund using bid and offer prices. The bid and offer prices used should be ones at which the fund could reasonably deal. Ignoring dealing costs, the total portfolio value at **bid prices** should be what the fund could expect to receive if it sold its holdings and the total portfolio value at offer prices is what it should expect to pay to buy the same investments.

The next stage is to add in the charges made for the investment; with a unit trust, this initial charge applies to purchases only. For this example, we will assume that the initial charge is at the rate of 3%.

Having added the initial charge, we can also now calculate the bid and offer prices for units in the fund, assuming that there are 10 million shares in issue.

ABC Fund		Bid			Offer	
Portfolio		Price per share	Value		Price per share	Value
1,000,000	ABC ords	45.95	45,950,000		46.15	46,150,000
1,000,000	DEF ords	67.75	67,750,000		67.90	67,900,000
1,000,000	GHI ords	14.90	14,900,000		14.95	14,950,000
1,000,000	JKL ords	36.50	36,500,000		36.75	36,750,000
1,000,000	MNO ords	70.35	70,350,000		70.40	70,400,000
Total Portfolio value			235,450,000			236,150,000
Cash			5,000,000			5,000,000
			240,450,000			241,150,000
Income for distribution			750,000			750,000
Total Asset Value			241,200,000			241,900,000
Notional broking charges			7,063,500			11,807,500
Expense Accruals			325,000			325,000
Net Asset Value			233,811,500			254,032,500
Initial Charge						7,620,975
			233,811,500			261,653,475
Share Price		Bid	23.38		Offer	26.17

An investor wishing to buy units in the unit trust will pay the **offer price**, and an investor wishing to sell their units receives the bid price. These represent the minimum and maximum prices that the fund is permitted to charge to investors, although they may set the prices within this range.

Public Offering Price

In the US, the public offering price (POP) is used.

The underlying portfolio is valued using the closing prices of each security; the closing price is the final price at which a stock trades during regular market hours. From the resulting calculations, its NAV

is determined. The NAV per share is then used as the basis for investor dealing, plus any charges for investing, or minus any charges when selling.

When compared to the dual-pricing method above, the NAV is equivalent to the bid price and is the price the fund will pay to shareholders who are selling their shares. The POP equals the offer price and is the price that the fund charges buyers.

Single Pricing

As we saw above, dual pricing reflects the amounts the fund could expect to receive if it sold its investments, or the amount it would pay if it bought, however, it is a complex process.

This approach can appear confusing to investors and so, in Europe, a simpler method of pricing funds is used, known as single pricing. As the name suggests, a single price is calculated and this is used for creation and cancellation and for the price at which investors buy and sell.

Instead of using the bid and offer price for the securities held in the portfolio, the mid-price is used. The mid-price is simply the arithmetic average of the two prices. The portfolio is then valued using this mid-price but, importantly, dealing costs are ignored.

If we use the same holdings as we had before for ABC Fund, we can see the difference in calculating the dealing price.

ABC Fund		Bid	
Portfolio		**Price per share**	**Value**
1,000,000	ABC ords	46.05	46,050,000
1,000,000	DEF ords	67.83	67,825,000
1,000,000	GHI ords	14.93	14,925,000
1,000,000	JKL ords	36.63	36,625,000
1,000,000	MNO ords	70.38	70,375,000
Total Portfolio value			235,800,000
Cash			5,000,000
			240,800,000
Income for distribution			750,000
Net Asset Value			241,550,000
Share Price			24.16

You will notice that the initial charge has also not been included in the calculation. This is because the charge is added on afterwards and stated separately on the **contract note** sent to the investor rather than being incorporated into the price.

The single-pricing method does not provide the ability to recoup dealing expenses and commissions within the **spread**. Such charges can be recouped either by applying a separate charge on purchases or redemptions, known as a 'dilution levy' (most common approach, or by 'swinging' the daily price to a dual-priced basis depending on the ratio of buyers and sellers on any day.

Dealing Process

Regardless of which pricing method is used, funds may be priced for dealing on either a forward or historic basis.

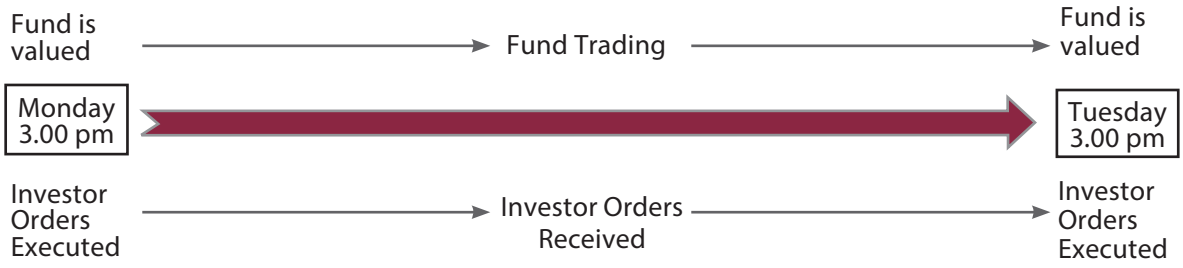
Forward and Historic Pricing	
Forward pricing	• Forward pricing refers to the pricing method whereby the subscription and redemption of units of an investment fund are effected at the NAV that is next computed after receipt of the subscription or redemption request. • In other words, the price of the shares would be unknown to the investor at the time of placing the request.
Historic pricing	• In contrast, historical pricing is the pricing method whereby investors subscribe or redeem shares based on the last calculated NAV of the investment fund.

Historic pricing has the potential for abusive trading practices to be used to exploit timing differences. For example, in a rising market, investors could subscribe fund units based upon the previous day's lower price, redeem their shares in a few days, and be assured of riskless profits, while at the same time the remaining unitholders' holdings.

As a result, forward pricing is now the method used by the vast majority of funds.

Forward Pricing

Forward pricing means that orders to buy or sell from investors will be dealt at the prices determined at the next valuation point. Many European funds have a 3pm valuation point and, as the following diagram shows, orders received after 3pm on Monday are not executed until the following day using the price established at the valuation point on Tuesday.



When an investor places an order to buy or sell units in a fund, there will be a defined process that needs to be followed. Where the investor is buying, they will place the order with the fund and, assuming it is

forward priced, it will be executed at the next valuation point. At that point, the price of the funds will be known and a contract note will be issued showing the number of units or shares purchased, the price, charges and the total consideration.

In the US, mutual funds are priced at the close of business. This means that investors wanting to deal must place their order before 4pm when the stock market closes – or, in practice, earlier to give time for the order to be placed. After the markets close, and the NAV is established, the order will be dealt.

Where the investor is selling or redeeming their shares, they will need to transfer the units or shares back to the fund manager. The fund manager will send the proceeds to the investor, usually no later than the fourth business day following receipt of all the duly executed instruments and authorisations to enable the transfer of title to take place.

2.4.6 Charges

Open-end funds will clearly make charges for undertaking the management of the investment fund, and the types of charges that arise include those shown in the following table:

Fund Charges	
Initial charges	• Investment funds may impose an initial charge for investing in a fund, normally expressed as a percentage of the amount invested. In the US, this is known as an upfront sales charge or front-end load. • The range of charges varies widely from fund to fund and depending upon whether the investor deals directly with a fund or uses a fund supermarket or fund platform.
Ongoing charges	• A fund will incur costs and expenses for the running of the fund, such as dealing commissions, audit fees, custody fees. • The fund management group will also make a charge for the management of the fund, usually expressed as a percentage of the funds under management.
Performance charges	• Performance fees may also be charged in certain funds over and above the annual fee providing that specified levels of growth over a benchmark have been achieved. • Charges vary from fund to fund, but the charging structure must be detailed in the fund's prospectus. There are also various other charges made by a fund, and the combined effect of these is disclosed in the total expense ratio.
Exit fees	• Because of investor dissatisfaction with the high level of initial charges, a number of fund groups dispensed with these and instead moved to a basis of charging exit fees if the investor disposes of their holding within a specified period of time. • Exit fees are referred to in the US as a back-end load.

In the US, a mutual fund can have seven or more classes of share which allows investors to choose different fee structures. There are three main classes, and the fees charged differ between each:

- Class A shares charge an upfront sales or front-end load that is taken off the initial investment. These shares tend to have lower ongoing charges and so are attractive for investors who plan to retain their holding for the long term but require a high initial investment.
- Class B shares have a back-end or contingent deferred sales charge where a fee is paid if the investor sells their shares within a specified period of years after the original investment. There are no front-end fees. They have higher ongoing charges than the other classes of shares but automatically convert into class A shares after a period of time. They are suitable for investors with small amounts of funds to invest and a long-term investment horizon.
- Class C shares are a type of level-load fund. There are no upfront fees and a small back-end load which is usually removed after one year, but they have higher ongoing charges. This class of shares is suitable for investors who do not plan to hold the shares for long and will be redeeming the shares in the short term.

Elsewhere, investment funds tend to have more simplified fee-charging structures.

Increased competition and price transparency in the investment fund market has led to significant price competition and in some countries has seen initial charges in particular falling quite considerably, though annual management charges have yet to feel the full force of competition. Fund charges, however, remain an important consideration when choosing between funds which we will look at in a later section.

3. Exchange-Traded Funds (ETFs)

Learning Objective

3.3.1 Be able to assess the main types, purposes, underlying structure, common investment characteristics, risks, costs and behaviours of: exchange-traded funds (ETFs); exchange-traded commodities (ETCs); growth of market size relative to conventional markets

3.3.2 Be able to analyse the relative merits and limitations of investing in exchange-traded funds (ETFs) or exchange-traded commodities (ETCs) compared with other forms of direct and indirect investment, in terms of: risks specific to different types of ETF/ETC instruments; risk/return and tracking error; physical vs synthetic; tax treatment; counterparty risk; turnover, liquidity and access; initial and ongoing costs; management and administration; smart beta; leveraged ETFs; inverse trackers

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Exchange-traded products are open-end investments that are listed on an exchange and traded and settled like shares. The main types are:

- exchange-traded funds (ETFs)
- exchange-traded notes (ETNs), and
- exchange-traded commodities (ETCs).

3.1 Exchange-Traded Funds (ETFs)

Exchange-traded funds are a type of open-end investment fund that are listed and traded on a stock exchange. They typically track the performance of an equity or bond index and trade very close to their NAV.

3.1.1 Characteristics of ETFs

An ETF has a corporate structure and is typically an investment company with variable capital. As with other open-end funds, they require regulatory authorisation and will have the responsibilities of managing and safeguarding the assets separated.

Some of their distinguishing features include the following:

- They track the performance of a wide variety of fixed-income and equity indices, as well as a range of sector and theme-specific indices and industry baskets. Some also now track actively managed indices.
- Some ETFs have more liquidity, or more easily tradable, than others depending upon the index they are tracking.
- The details of the fund's holdings are transparent so that their NAV can be readily calculated.
- They have continuous real-time pricing so that investors can trade at any time. They will generally have low bid-offer spreads depending upon the market, index or sector being tracked.
- They have low expense ratios and no initial or exit charges are applied. Instead, the investor pays normal dealing commissions to their stockbroker.
- ETFs can be used by retail and institutional investors for a wide range of investment strategies, including the construction of **core-satellite portfolios**, asset allocation and **hedging**.

These features, along with lower costs than traditional investment funds, have made ETFs one of the fastest-growing types of investment fund worldwide, especially as they can be used to go short, open up new investment strategies and can be traded intra-day.

Stock Market Listing

ETFs are listed on a stock exchange and so require approval from the exchange to be listed and admitted to trading. A key difference from other open-end funds is that purchases and sales are made in the same way as any other trade by the investor placing an order with their broker.

ETFs value their portfolios daily and provide details of the portfolio's NAV and number of shares in issue on a daily basis to an approved disclosure system, such as the RNS.

The ETF provider makes the content of a basket of shares and the NAV available at the start of each day through Reuters and **Bloomberg**. During the trading day, intra-day information on the indicative NAV is published by the relevant stock exchanges enabling investors to compare this with the bid/offer in the market.

Pricing and Dealing

The only parties who deal directly with the ETF are major financial institutions who are known as 'authorised participants'.

An authorised participant is typically a large financial institution that enters into a legal contract with an ETF distributor to create and redeem shares of the fund. They do not receive compensation from the fund and have no legal obligation to create or redeem the ETF's shares. Instead, they typically derive their compensation from acting as dealers in ETF shares. Some act as **clearing** brokers (rather than dealers) and receive payment for processing creations and redemptions as an agent for a wide array of market participants. Some authorised participants act as registered market makers in ETF shares and a range of other participants help trading by being actively involved in the market.

ETF Creation Process

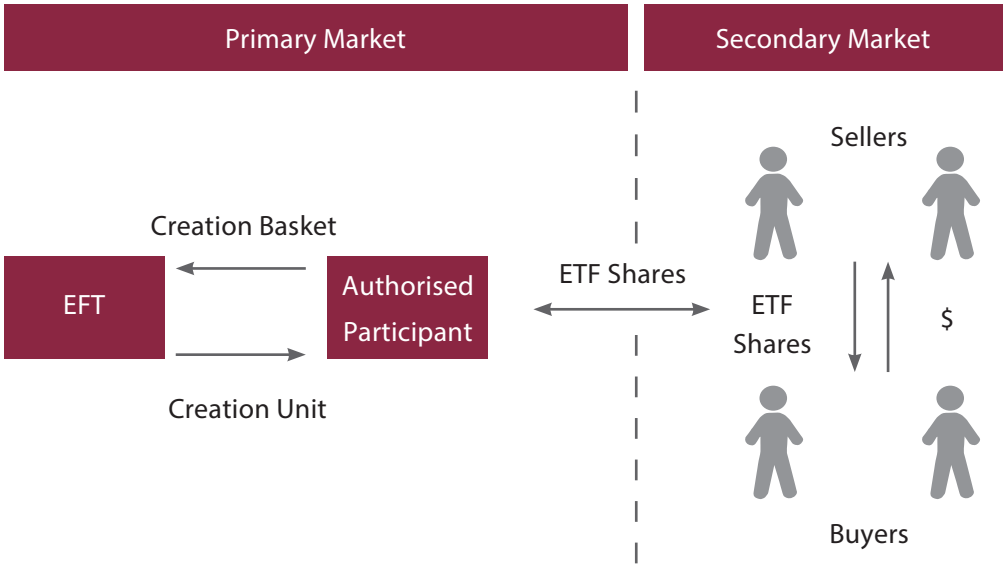
The authorised participant can create new ETF shares, in one of two ways:

- They go into the markets and buy a basket of shares that corresponds exactly with the construction of the underlying index and then deposit this with the ETF and receive in exchange an institutional block of shares, known as 'creation units'.
- They deliver cash to the ETF provider in exchange for a creation unit. They may be charged a cash adjustment or transaction fee to offset any transaction expenses the fund undertakes.

When they wish to redeem units, the authorised participant delivers the creation unit back to the ETF provider and receives either the underlying shares or cash.

These authorised participants may also be market makers on the exchange and will then make a two-way market in the underlying ETF shares during market hours. Market makers quote two-way prices giving investors the ability to trade ETFs at any time the market is open rather than at a set daily price. An investor effectively buys a share in the creation unit that represents a *pro rata* ownership of the underlying securities represented by the creation unit.

Primary and Secondary Market for ETF Shares



The advantage of ETFs, therefore, is the ability to trade at any at point during the trading day. This gives very quick trade execution and certainty of proceeds, and enables quick switches to other instruments or asset classes.

The price of an ETF share on a stock exchange is influenced by the forces of supply and demand. Though imbalances in supply and demand can cause the price of an ETF share to deviate from its underlying value, substantial deviations tend to be short-lived. The transparency of an ETF's holdings enables investors to observe and attempt to profit from discrepancies between the ETF's share price and its underlying value during the trading day.

This **arbitrage** mechanism behind ETFs generally keeps them 'fairly' priced:

- The market makers, ie, authorised participants, typically keep ETF prices very close to their NAVs as well. They are properly compensated for doing so.
- The mechanism for creating new shares and redeeming old ones should prevent sustained premiums and discounts from occurring.
- If ETF prices begin to stray from their 'fair value', the authorised participant or another market participant can perform an arbitrage to bring prices back in line.

The catch, however, is that the authorised participant can create or redeem shares only when the basket reaches a minimum size, which is typically set at 5,000, 10,000, 25,000, 50,000 or 100,000 ETF shares.

For widely traded ETFs:

- the creation and redemption process can happen several times per day
- the authorised participant fully expects to be able to turn over any open position on their books within a day or two, and
- they are willing to trade with any client, large or small, for a price that is very close to NAV.

For smaller and less-heavily traded ETFs, there is a different trading dynamic:

- Large trades, those in 50,000 increments, can generally be executed very effectively.
- Alternatively, an investor wishing to invest a large enough sum of money, enough to trigger a creation event, can directly contact a specialist through the ETF firm and get the trade executed at a price very close to NAV.
- However, if an investor is executing a trade ranging from 1,000 to around 40,000 shares, it is important to be aware of the volume of stock available at different bid-ask price levels.
- An order to buy or sell may be executed against a number of shares posted with different offering prices, so only a portion of the shares traded will likely be met at those prices, and the rest will be met by the next few sets of bids which will typically be at less attractive prices.
- In such situations, it is important to use limit orders to manage the execution of the order.

Charges

Many ETFs are managed by large financial intermediaries – in the US, Blackrock, State Street and Vanguard account for more than 80% of ETF activity – and the fees and charges are very competitive and are often considerably lower than those applied for more traditional managed funds.

Their tax treatment will typically mirror that of other open-end investment funds. It is important to establish, however, how the fund is treated in the investor's tax residence to be sure of this.

3.1.2 Reverse ETFs

ETFs can also be constructed as reverse ETFs or inverse funds. This means that they are constructed so that the ETF has either outright short positions in the underlying instruments or **derivatives** that provide a synthetic **short position** for that sector.

Accordingly, an investor who buys or takes a **long position** in such an inverse fund is effectively short the sector or index and will benefit from a downward movement in that particular sector or index. This feature makes it easier for many investors to take a short position than having to borrow stock from a brokerage.

3.1.3 Leveraged ETFs

Leveraged ETFs are a specialised type of ETF that attempt to achieve returns that are more sensitive to market movements than non-leveraged ETFs, and carry higher charges as a result.

To accomplish their objectives, they pursue a range of investment strategies through the use of swaps, **futures** contracts and other derivative instruments. An important characteristic of these index-tracking leveraged funds is that they seek to achieve their stated objectives on a daily basis, and their performance over longer periods of time can differ significantly from the multiple or inverse multiple of the index performance over those longer periods of time. This effect can be magnified in volatile markets.

Leveraged index ETFs are often marketed as bull or bear funds:

- A **leveraged bull ETF** fund might, for example, attempt to achieve daily returns that are 2x or 3x more pronounced than an index such as the **FTSE 100** or the S&P 500.
- A **leveraged bear (inverse) ETF** fund will attempt to achieve returns that are –2x or –3x the daily index return, meaning that it will gain double or triple the loss of the market.
- **Leveraged ETFs** require the use of financial engineering techniques, including the use of equity swaps, derivatives and rebalancing, to achieve the desired return.

3.1.4 Smart Beta

Traditional active and passive funds help investors achieve their investment goals, but a newer alternative aims to combine the benefits of both approaches into one product. It goes by many names including enhanced indexing, smart beta, strategic beta, fundamental indexing and factor investing.

The key difference between a smart beta fund and a traditional index fund is that a smart beta fund does not track a market capitalisation weighted index but, instead, tracks an index based on fundamental characteristics; these can range from macroeconomic factors, such as economic growth, to investment style factors.

Examples of the different factors are shown as follows:

Macroeconomic factors	Macroeconomic factors capture broad risks that exist across asset classes: • economic growth • real interest rates • inflation • credit • emerging markets, and • liquidity.
Style factors	Style factors capture risks and returns within asset classes: • minimum volatility • **momentum** • value • quality, and • size.

Individual factors are typically driven by different market phenomena and, therefore, tend to be rewarded in different market environments and economic cycles. Smart beta will typically target more than one factor in order to provide opportunities to seek improved returns, reduced risk or enhanced diversification.

By systematically tilting investment exposures toward factors within an index framework, smart beta strategies combine the characteristics of both active and passive investing:

- **Active** – they are active in that they can potentially enhance returns and reduce risk through exposures to proven drivers of return.
- **Passive** – at the same time, they resemble traditional passive strategies in that their implementation is transparent, systematic and rules based.

As opposed to passive strategies, enhanced index strategies aim to outperform traditional benchmarks, however, at significantly lower levels of active risk than typical active strategies. Smart beta can, therefore, be considered a middle ground between a purely active and a purely passive approach.

Investors considering these types of funds need to understand the index construction that underpins a fund as similar sounding funds may produce different results.

3.1.5 Indexation

ETFs usually track equity or fixed-income market indices and in order to achieve their investment objectives, ETF providers can either use physical or synthetic replication. The risks of the latter have been the subject of intense regulatory scrutiny by regulators around the world.

Physical replication can be achieved either through full replication or by sampling.

Physical Replication Methods	
Full replication	• This is an approach whereby the fund attempts to mirror the index by holding shares in exactly the same proportions as in the index itself.
Stratified sampling	• This involves choosing investments that are representative of the index. • The expectation is that, overall, the 'tracking error' or departure from the index will be relatively low. • The amount of trading of shares required should be lower than for full replication since the fund will not need to track every single constituent of an index. • This should reduce transaction costs and, therefore, will help to avoid such costs eroding overall performance.
Optimisation	• This is a computer-based modelling technique which aims to approximate to the index through a complex statistical analysis based on past performance. • The optimised sampling approach is more common for indices with a large number of components, in which case the provider would only buy a basket of selected component stocks reflecting the same risk-return characteristics of the underlying index. It does, however, introduce a risk that the optimisation strategy is effectively assessed and implemented.

The alternative is to use synthetic replication. This involves the ETF providers entering into a swap agreement with single or multiple counterparties. The ETF agrees to pay the return of a pre-defined basket of securities to the swap counterparty in exchange for the index return. The ETF will enter into a swap agreement with a single counterparty or, as is more likely these days, multiple counterparties.

The constituents of the basket do not necessarily have to correspond with the index that is being tracked.

Since 2009, funded swaps have been more common where the ETF provider transfers the cash instead and receives **collateral** as security for the money transferred. The collateral will typically be greater than the value of the cash transferred and will consist of high-quality sovereign government bonds and equities that can be readily realised.

In both cases, the counterparty undertakes to deliver the performance of the index the ETF is tracking.

Synthetic replication generally reduces costs and tracking error, but increases counterparty risk. For markets not easily accessible, swap structures do have an advantage over physical replication.

The main advantage of physical replication is its simplicity. This, however, comes at a cost of greater tracking error and higher total expense ratio (TER). The main advantage of synthetic replication tends to be lower tracking error and lower costs, but with the downside of counterparty risk.

3.1.6 Tracking Difference and Tracking Error

ETFs are designed to track an index so how effectively they do so is a key metric. Tracking difference and tracking error are two terms that are used to measure their performance.

Tracking difference is the absolute difference between the return on the fund and that of its benchmark index.

Tracking Difference

There are a number of reasons why there is a difference between the fund return and that of the index including:

- **Fund expenses** – although ETF expenses are lower than traditional actively managed funds, they are still incurred and are a drag on performance.
- **Transaction costs** – as money is added to or withdrawn from the fund, the ETF will undertake transactions to invest cash or raise cash and therefore incur the costs of doing so.
- **Index rebalancing** – from time to time, an index will rebalance its constituents by adding or removing companies or instruments. As the ETF needs to track the index, it must buy and sell the underlying securities and incur the associated trading costs. During the time it takes to buy and sell the necessary securities, prices move and create tracking difference between the index and the ETF.
- **Sampling** – where it is impractical to hold all of the securities in an index, some form of sampling will take place. The sample may, therefore, not perform in exactly the same way as the index itself.
- **Cash drag** – at any point in time, ETFs will have cash awaiting investment and dividends awaiting distribution. While the fund can invest those funds temporarily, the ETF will have a different return than the index, therefore, contributing to tracking difference.
- **Securities lending** – some ETFs lend out the securities in their portfolio and, in return, receive securities lending fees. This creates additional revenue for the ETF above and beyond what is covered in the index and, therefore, can help reduce the costs of the ETF and improve its tracking difference.

Tracking error, on the other hand, is a measure of how well the fund tracks the **benchmark** during the investment period. It is a measure of volatility. A small tracking error indicates that the passive fund will tend to follow its benchmark very closely throughout, whereas a large tracking error indicates the opposite.

3.1.7 Collateral and Counterparty Risk

As well as being aware of the different types of ETFs available, it is also important to be aware of the risks that arise from securities lending and the use of swap counterparties for replicating an index.

Securities Lending

Many ETFs and traditional index funds will utilise securities or **stock lending** to generate fee income. This involves the fund lending its securities to other market counterparties in exchange for fees which can help reduce the operating expenses of the fund. This introduces the following risks:

- **Counterparty risk** – this is the risk that the party to whom the securities have been lent fails to return them when demanded.
- **Collateral risk** – this is the risk that the collateral taken as security for stock that is loaned out is insufficient if it has to be realised to replace the securities loaned.

Stock lending is a specialised function; there are established techniques for managing the risks associated with lending, including:

- enforceable legal agreements
- the taking of collateral greater in value than the securities lent, and
- the regular **mark-to-market** of the securities lent so that additional collateral can be called.

Swap Counterparties

There are a number of concerns about the risks that ETFs pose in the area of swap counterparties.

In Europe, index tracking funds have to meet certain **concentration** and diversification requirements which include the requirement that a fund cannot invest more than 20% of its NAV in instruments issued by the same body. The maximum exposure to any swap counterparty is limited to 10% of the fund's NAV, so that an ETF will have to have multiple counterparties and will look to hedge its exposure by requiring collateral to be posted with an independent custodian. Most providers disclose the composition of the collateral taken daily on their websites.

Disclosure Requirements

In Europe, these concerns have led to the introduction of a new regulatory framework for ETFs and other UCITS investment funds that have similar investment objectives to increase disclosure on areas such as collateral and the counterparty risks that can arise from securities lending practices. The framework requires all investment funds to disclose the following items.

Disclosure Requirements	
Index-tracking UCITS funds	• Details of the tracking methodology to be used and the size of the tracking error.
Exchange-traded funds (ETFs)	• A common identifier is to be used to identify whether a fund is an ETF as they have unique characteristics that are different from traditional open-end funds.

Disclosure Requirements	
Leveraged ETFs	• How leverage is achieved and the costs associated with the strategy.
Actively-managed funds	• Make clear it is not an index tracker and explain how outperformance will be achieved.
Collateral and counterparty risk	• Participation in securities lending and a detailed description of the risks, conflicts of interest and impact on performance. • Its collateral management policy and the extent to which it is able to recall any securities lent or to terminate lending agreements at any time. • Details of fees arising from securities lending and fee-sharing arrangements with lending agents.

3.2 Exchange-Traded Notes (ETNs)

An ETN is a senior, unsecured, unsubordinated debt security issued by an underwriting bank.

When an investor buys an ETN, the underwriting bank promises to pay the amount reflected in the index, minus fees upon maturity. As a result, the ETN has an additional risk compared to an ETF – upon any reduction of credit ratings or if the underwriting bank goes bankrupt, the value of the ETN will be eroded.

There are two types of ETNs, namely collateralised and uncollateralised. Collateralised ETNs are hedged partly or fully against counterparty risk whereas uncollateralised ETNs are fully exposed to counterparty risk.

Though linked to the performance of a market benchmark, ETNs are not equities or index funds, but they do share several characteristics with the latter:

- Similar to equities, they are traded on an exchange and can be shorted.
- Similar to index funds, they are linked to the return of a benchmark index.
- However, as debt securities, ETNs do not actually own anything they are tracking.

ETNs may be liquidated before their maturity by trading them on the exchange or by redeeming a large block of securities directly to the issuing bank. The redemption is typically on a weekly basis and a redemption charge may apply, subjected to the procedures described in the relevant prospectus.

Since ETNs are unsecured, unsubordinated debts, they are not rated, but are backed by the credit of underwriting banks. Like other debt securities, ETNs do not have voting rights. Unlike other debt securities, however, interest is not paid during the term of most ETNs.

3.3 Exchange-Traded Commodities (ETCs)

ETCs are investment vehicles that track the performance of an underlying commodity index, including total return indices based on a single commodity. They are similar to ETFs and are traded and settled in the same way as shares, enabling investors to gain exposure to commodities, on-exchange, during market hours.

Most ETCs implement a futures trading strategy which may produce quite different results from owning the underlying commodity. In the case of many commodity funds, they simply roll so-called front-month futures contracts from month to month. This does give exposure to the commodity, but subjects the investor to risks involved in different prices along the term structure of future contracts which may include additional costs as the expiring contracts have to be rolled forwards.

In addition to investment vehicles which track commodities, there are also exchange-traded currencies which provide exposure to foreign exchange (FX) **spot** rate changes and local institutional interest rates.

ETCs will be fully collateralised, meaning that counterparty risk is hedged out.

3.4 Passive Investment Management

ETPs are passive investments that aim to replicate the performance of a given market, generally by tracking an underlying benchmark index.

They are described as passive investments as they do not make active choices about which investments to hold and, instead, hold the same securities, or a representative sample, as the index that they aim to track. Passive investment management is often referred to as 'indexing' because it entails investing in exactly the same securities, and in the same proportions, as an index. It is considered a passive investment style because the fund manager does not make decisions about which securities to buy and sell. Instead, they track indices and there is an index, and there is an index fund for nearly every financial market in existence.

This method of investment management is based on the belief that it is impossible to consistently beat the average on a risk-adjusted basis. It, therefore, seeks to hold a portfolio that mirrors the index it is tracking and involves only sufficient trading to ensure that the portfolio's performance is in line with the index.

Efficient Markets

From a theoretical perspective, the rationale for adopting a passive investment strategy is grounded in the efficient markets hypothesis (EMH). This theory holds that security prices rapidly incorporate all available information, implying that (excess) future returns are not predictable. A natural corollary, therefore, is that there is limited room for active investment strategies to generate returns above those of the market on a consistent basis. Limited scope for systematic outperformance raises doubt about the rationale of incurring management fees in excess of those necessary to maintain a diversified market portfolio.

The popularity of passive investing through index mutual funds and ETFs has grown substantially over recent years at the expense of higher-cost, active investment styles.

Index funds have grown in popularity because of their simplicity and lower costs. Another factor is concern over actively managed funds that produce returns that are only in line with the market or worse, and yet charge higher fees. Assets held in passive investment funds have expanded rapidly over recent years and now represent a significant percentage of the global investment fund universe. According to the Investment Company Institute, in March 2025, the amount invested in passive investments as a percentage of total assets under management held in US mutual funds was greater than that held in active funds, with 51% of the total mutual funds industry AUM.

4. Closed-End Funds and Investment Companies

Learning Objective

3.4.1 Be able to assess the main types, purposes, risks, tax treatment, charges, common investment characteristics and behaviours of offshore closed-end funds and investment companies

3.3.2 Be able to analyse the relative merits and limitations of investing in exchange-traded funds (ETFs) or exchange-traded commodities (ETCs) compared with other forms of direct and indirect investment, in terms of: risks specific to different types of ETF/ETC instruments; risk/return and tracking error; physical vs synthetic; tax treatment; counterparty risk; turnover, liquidity and access; initial and ongoing costs; management and administration; smart beta; leveraged ETFs; inverse trackers

3.4.2 Be able to assess when and why borrowing/gearing is used by closed-end funds, and the benefits and risks associated with it

3.4.3 Be able to analyse the relative merits and limitations of investing in closed-end funds and investment companies compared with other forms of direct and indirect investment, in terms of: risks; investment performance; tax treatment; premiums and discounts; turnover, liquidity, and access; initial and ongoing costs; management and administration; product development and popularity in different jurisdictions

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A closed-end investment company is another form of investment fund and traded as a 'share' in its own right.

When they are first established, a set number of shares are issued to the investing public and these are subsequently traded on a stock market. Investors wanting to subsequently buy shares do so through the stock market from investors who are willing to sell.

The capital of the fund is, therefore, fixed and does not expand or contract in the way that an open-end fund does. For this reason, they are referred to as closed-end funds in order to differentiate them from investment companies with variable capital and unit trusts.

4.1 Types and Characteristics of Closed-End Funds

Closed-end funds are known by various names, such as investment companies or investment trusts. They can be investment funds that invest in the traditional asset classes, or more specialist ones that invest in areas such as property, private equity or infrastructure.

In the following sections, we will look at some of the general characteristics that are found with closed-end funds.

Once issued, a closed-end fund's ordinary shares typically are not purchased or redeemed directly by the fund but, instead, are bought and sold in the open market.

To increase their share capital, the investment company needs to go through a capital-raising exercise. This could be a rights issue, which is an offering of new shares to current investors at a subscription price that is typically lower than the current share price and/or NAV. In the UK, it is more commonly achieved by an issue of new shares that are convertible into the ordinary shares of the company.

As a listed company, a closed-end fund can issue different classes of shares, as explained below:

4.1.1 US Closed-End Funds

Closed-end funds are one of the main types of registered investment companies in the US along with mutual funds, ETFs and unit investment trusts.

Closed-End Funds

A closed-end fund is created by issuing a fixed number of ordinary shares to investors during an **initial public offering (IPO)**. Subsequent issuance of ordinary shares can occur through secondary or follow-on offerings. Closed-end funds also are permitted to issue one class of preferred shares in addition to ordinary shares. Preferred shares differ from ordinary shares in that preferred shareholders are paid dividends but do not share in the gains and losses of the fund. Issuing preferred shares allows a closed-end fund to raise additional capital and employ leverage or gearing.

Closed-end funds can have many different investment objectives, strategies and investment portfolios. Their investment portfolios are managed by separate entities known as 'investment advisers' that are registered with the SEC. They are permitted to invest in a greater number of illiquid securities than are mutual funds. Because of this feature, funds that seek to invest in markets where the securities tend to be more illiquid are typically organised as closed-end funds.

The largest category of closed-end fund is municipal bond funds which invest in the bonds issued by states, local governments and agencies and which are tax-exempt for federal tax purposes. Many municipal bond funds use leverage to enhance their return potential. Other types of closed-end funds include US bond funds, diversified US equity funds, sector and speciality funds and global funds. They pursue objectives similar to growth or income mutual funds.

Closed-end funds are typically structured in two ways:

- **Perpetual or term funds** – these are the most common, and trade on an exchange indefinitely.
- **Term closed-end funds** – these exist for a finite period, such as ten or 15 years. A term is commonly employed if the fund manager has identified a unique or timely investment opportunity.

Closed-end funds make regular income distributions as well as distributing realised capital gains so that the funds do not pay tax at fund level but, instead, are said to 'pass through' to be taxed in the hands of shareholders. Investors can elect to become part of an automatic reinvestment plan so that funds can be reinvested.

Unit Investment Trusts (UITs)

Unit investment trusts (UITs) fall into two main categories:

- Bond trusts – either taxable or tax-free.
- Equity trusts – either domestic or international.

UITs have the characteristics of both mutual funds and closed-end funds. Like mutual funds, UITs issue redeemable shares (called units), and like closed-end funds, they typically issue a specific, fixed number of shares. However, unlike either mutual funds or most closed-end funds, UITs have a preset termination date based on the portfolio's investments and the fund's investment goals. When a UIT terminates, proceeds from the securities are paid to unitholders or, at a unitholder's election, reinvested in another trust.

Federal law requires that UITs have a largely fixed portfolio – one that is not actively managed or traded. Once the trust's portfolio has been selected, its composition may change only in very limited circumstances. Most UITs hold a diversified portfolio, described in detail in the prospectus, with securities professionally selected to meet a stated investment goal, such as growth, income or capital appreciation. A trust sponsor is likely to maintain a secondary market in which investors can sell their units back to the sponsor, and other investors can buy those units. In any event, UITs are required by law to redeem outstanding units at their NAV.

4.1.2 UK Closed-End Funds

In the UK, closed-end funds are referred to as investment trusts. They were the first type of collective investment vehicle introduced in the UK, first appearing in 1868 when legislation permitted the creation of companies with limited liability.

Despite its name, an investment trust is actually a company, not a trust. Investors' interests are protected by an independent board of directors, the continuing obligation requirements of a stock market listing and the Companies Acts.

Many of the original investment trusts that were first launched are still in existence and, today, often resemble global equity funds. Most funds now, however, are specialist funds that are structured as venture capital trusts (VCTs) or investment companies that invest in areas such as infrastructure, **private equity** and **venture capital**.

In the UK, investment companies can be categorised into two main types – conventional and split capital trusts:

- Conventional investment companies issue a single class of ordinary shares which have the same characteristics as other listed shares.
- Split capital investment trusts, offer different classes of shares, each offering different rights and benefits, and they have a limited life span. These different share classes are intended to appeal to different types of investor, such as income shares and capital shares. Income shares are entitled to all of the income generated and receive only the nominal value of the shares on the winding up of the fund. Capital shares pay no income at all and receive all of the net assets when the trust is wound up.

Split Capital Trusts – Types of Shares	
Income shares	• These are entitled to all the income generated by the assets, but a fixed amount (typically £1) per share when the trust is wound up.
Zero dividend preference shares	• These pay no income, but provide a fixed rate of capital growth until the trust is wound up. • 'Zeros' have first call on the trust's assets after any borrowing has been repaid.
Capital shares	• These receive no income, but are entitled to all the capital in the trust, once any loans have been repaid and the income and preference shareholders have been paid out. • Capital shares, therefore, carry the highest investment risk.

Each class of share will appeal to a different type of investor, but all rely to a greater or lesser extent on the performance of the underlying investments..

4.1.3 Australian Closed-End Funds

In Australia, there are two main types of closed-end fund:

- listed investment companies, and
- listed investment trusts.

Australian Closed-End Funds	
Listed investment companies (LICs)	• LICs are incorporated as companies and usually have their listing on the Australian Securities Exchange (ASX). • Many LICs operate in a similar way to managed funds. They have an external or internal manager who is responsible for selecting and managing the company's investments which may include shares, property and interest-bearing deposits. • As companies, LICs have the ability to pay franked dividends.

Australian Closed-End Funds	
Listed investment trusts (LITs)	• Listed investment trusts are incorporated as trusts, rather than as companies. • LITs are also closed-end vehicles just like LICs, so investors buy and sell existing units on the ASX. • While LICs have the ability to pay franked dividends, LITs must pay out any surplus income to investors in the form of distributions. These distributions carry the franking levels allocated by the underlying investments.

Traditionally, LICs and LITs invested in either Australian or international shares depending on the fund. Newer funds, however, offer exposure to a much broader range of underlying assets which will suit different types of investors.

LICs and LITs can be classified into four broad categories, based on their investment style:

- **Australian shares funds** – that invest mostly in listed Australian shares.
- **International shares funds** – that invest mostly in shares listed on overseas stock exchanges.
- **Private equity funds** – that invest in unlisted companies, either Australia or overseas.
- **Specialist funds** – that invest in special assets or particular sectors, such as wineries, technology companies, infrastructure or property.

The investment approach of each fund will be different, ranging from conservative to aggressive. Aggressive funds can have higher returns, but they can also be much higher risk. Some of the riskier strategies that funds may use include **short selling**, leverage and derivatives.

LICs are bought and sold on the stock market just like ordinary shares; most LICs are traded easily on the ASX, however some LICs can be quite thinly traded. The value of the underlying assets held by an LIC on a per share basis is referred to as net tangible assets (NTA). LICs are required to report their NTA on a regular basis, and this measure can be used to determine whether an LIC is trading at a premium or at a discount to its NTA.

4.1.4 Gearing

Closed-end funds are able to borrow money to add funds to the value of the portfolio they manage in order to potentially enhance the returns they earn. This is in contrast to most open-end funds, where the ability to borrow is far more limited.

Closed-end funds are limited companies and operate under company law, so they can use their assets as security and borrow like any other company.

Borrowing by closed-end funds can be performed in different ways. The most popular are bank loans and bonds but, in some countries, different share classes can be issued with different rights. There are two types of gearing:

1. Portfolio gearing refers to the use of short-term borrowing, such as bank loans and repos.
2. Structural leverage is the most common type and affects the fund's capital structure through the issue of debt and preferred shares.

Gearing can magnify fund performance in both directions; in a rising market, it can enhance returns, but in a falling one it can exaggerate losses. This can be seen by looking at a straightforward example.

Impact of Gearing

A fund has assets of 50 million and a bank loan of 10 million giving it total investable assets of 60 million.

- If we assume that the fund is fully invested, and the underlying assets rise by 10%, the portfolio value rises to 66 million, giving a revised NAV after deduction of the bank loan of 56 million. The portfolio has risen in value by six million compared to the five million it would have risen without the gearing – gains have been enhanced.
- If the value of the underlying assets falls by 10%, the portfolio value falls by six million to 54 million and, after deduction of the bank loan, the revised NAV is 44 million. Gearing has exaggerated the losses.

The gearing factor reflects the amount of borrowings the fund has used to invest in the market. This figure indicates the extra amount by which shareholders' funds would move if the company's investments were to rise or fall. A fund without any gearing is said to have a level of 100%, while in the example used above the gearing would be 120%; it is calculated as gross assets ÷ net assets.

A distinction should be made between net and gross gearing. If the fund in our example above holds five million in cash or near cash assets, the gearing factor is exaggerated as market movements would not impact this portion of the portfolio. The gross gearing calculation accounts for such non-equity holdings to, therefore, give a truer reflection of the potential gearing effect on the fund. This uses the same formula as before but with the cash figure deducted from the gross assets.

Not all funds employ gearing, and it is usually clear at the outset in a fund's prospectus if they will use a gearing strategy, and if so to what extent. Fund analysis agencies provide details of the level of gearing of closed-end funds.

4.1.5 Pricing and Dealing

A closed-end fund will calculate its NAV in the same way as we have seen before and communicate its NAV per share to the stock market. An example of the information contained in the stock market notification is shown as follows:

Fund	Ticker Symbol	ISIN Code	Shares in Issue	Currency	Dealing Day	Net Asset Value	NAV per Share

Closed-end funds that invest in mainstream assets calculate their NAV each business day; other funds that invest in more less liquid assets, such as property, private equity or infrastructure, may calculate their NAV less frequently, such as weekly. The frequency of valuation will often be dependent on the nature of the underlying assets held in the portfolio.

As the shares of a closed-end fund are listed and traded on a stock market, the actual price may be different than the NAV per share and will depend upon supply and demand for the shares. Closed-end funds can trade at a premium or discount to their NAV per share. A closed-end fund trading at a share price higher than its NAV is said to be selling at a 'premium' to the NAV, while a closed-end fund trading at a share price lower than its NAV is said to be selling at a 'discount'.

When an investor wishes to buy or sell, they instruct their broker who then executes the trade on the stock market. In that way, they trade and settle in the same way as other equities. A major difference from open-end funds is that there is no initial commission payable and, instead, the investor will pay brokerage charges to buy or sell the shares.

4.2 Specialist Funds

Closed-end funds can also be set up to invest in areas such as private equity, property or infrastructure.

Typically, these are long-term investment strategies and so the closed-end nature of the structure is more appropriate to their needs. This can have advantages for a fund in that it does not need to realise assets at possibly distressed prices to meet investor redemptions. It may require investors to commit their money for long periods of time so that the planned investments have time to deliver their expected returns.

Some closed-end companies may not be traded on a stock market and so periodic redemptions may be made available to offer investors a way to realise all or part of their investment.

4.2.1 Real Estate Investment Trusts (REITs)

REITs are a type of closed-end fund that invest in real assets by pooling investors' funds to invest in commercial and, possibly, residential property.

REITs can provide investors with tax-efficient and diversified exposure to rental properties as they are tax-transparent property investment vehicles.

In many countries, provided they distribute at least 90% of their taxable income to investors, they are exempt from capital gains tax (CGT) and corporation tax. Instead, investors pay tax on the dividends and capital growth at their own marginal tax rates, therefore avoiding the double taxation that would otherwise affect investors in property companies.

4.2.2 Private Equity

Private equity investment is usually structured as a limited partnership arrangement and looks to target institutional investors and only the wealthiest private investors. Access to private equity is possible, however, for ordinary investors through listed closed-end funds.

There are a number of factors that should be analysed when considering including private equity funds within a client's portfolio:

- Private equity funds are a specialist and widely varied sector. Analysis of the fund needs to take place as some hold direct investments in companies and others do so indirectly through investment in other funds.
- Private equity funds make money by investing in businesses that need access to growth capital or that need overhauling. The types and spread of investments they hold need to be analysed, along with any commitments they may have to provide further capital.
- They will often use high levels of debt and so are exposed to interest rate rises and credit squeezes.
- Funds will look to take their profit by a trade sale or **flotation** and so their planned exit route needs evaluation.
- Private equity is highly correlated with the economic cycle and realising a profit can be problematic. Given the timescales needed for such investments to work, the sale can occur at a time when there is little market interest in a sale or floatation.
- In stable economic environments, the drivers of outperformance and the ability to exit investments are in place. In such scenarios, discounts can expect to narrow while, once the economic environment deteriorates, discounts will widen.
- The size of fund also varies widely and the market capitalisation of the fund needs to be judged in terms of the level of liquidity that is present and whether this would present any issues when buying or trying to realise the investment.

4.2.3 Infrastructure

Listed infrastructure funds invest mainly in private finance initiatives and public-private partnerships which are set up to allow private investors to invest in infrastructure projects such as roads and hospitals.

Their attraction is that they offer higher yields than corporate bond funds, along with relatively low volatility. There are two main types of infrastructure fund – direct funds and equity funds.

Types of Infrastructure Fund	
Direct funds	• These invest directly in infrastructure projects, such as the building of schools or hospitals. • They may target a single country or be international in nature. • They may also target mature opportunities that are lower risk or projects at the more capital-intensive stage.
Equity funds	• These invest indirectly by targeting infrastructure companies rather than direct investment. • They will be more closely correlated with the equity market but are often defensive in nature and offer a steady and consistent yield.

There are a number of factors that should be analysed when considering including infrastructure funds within a client's portfolio:

- An assessment needs to be made as to whether to use a direct or indirect fund and the relative risks of each approach.
- The spread of investments held by the fund needs to be assessed.
- The lowest-risk projects are usually government-backed 'social infrastructure'. These typically have long-term contracts that provide for revenues to rise in line with inflation, consequently, investors have a high degree of certainty about future earnings.
- Next come utilities, such as energy and water, which have fairly stable user demand and are normally allowed to set prices at a level that guarantees them a predetermined, long-term return on investment (although such utilities may be governed by regulators in terms of pricing, investment spend and return).
- Lastly, projects such as transport and communications facilities may see demand rise and fall depending on the state of the economy, so their earnings will be more volatile.
- If a fund exploits international opportunities, then the risks associated with each country invested in needs to be considered.
- Low interest rates make the returns on infrastructure funds attractive which drives up the price and, in turn, often leads to the fund trading at a premium to NAV. Advisers should be aware of the price they may be paying for an attractive return.

Key consideration must be given to the illiquid nature of such funds and should form part of a overall portfolio for a client. For instance, in March 2020, a number of property funds were suspended from dealing as part of the coronavirus (COVID-19) pandemic's impacts due to a combination of investors wishing to withdraw their investments together with difficulties in accurately valuing the fund assets.

4.2.4 Project Finance

Project finance is closely related to infrastructure projects and involves the raising of finance for a project.

Definition of Project Finance

Project finance is defined by the International Project Finance Association (IPFA) as:

> *'The financing of long-term infrastructure, industrial projects and public services based upon a non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project'.*

Therefore, project finance is about the raising of long-term funds to finance a project. Traditionally, it has been most commonly used in mining, transportation and telecom businesses, as well as for sports and entertainment venues.

The finance will usually be raised by creating a special purpose vehicle (SPV) to borrow the funds based on the projected cash flow of the project rather than the balance sheet of its sponsors. The financing is usually secured on the project's assets, which include the revenue producing contract so that lenders are able to assume control of the project if the project company gets into difficulties.

Project finance is often more complicated than alternative financing methods. A complex project finance structure may incorporate corporate finance, **securitisation**, derivatives, insurance provisions or other types of collateral enhancement to mitigate risk.

4.2.5 Forestry

Investment funds are available that invest in timber and forestry assets. Forestry has long been included in the portfolios of institutional investors and the very wealthy, but the availability of investment funds now makes this more accessible to ordinary investors.

There are three main routes to investment in forestry funds – private forestry funds, listed forestry funds and SPVs.

Forestry Funds	
Private forestry funds	• These make up the bulk of the market and are usually structured as either a commercial property syndicate or an unregulated fund. • They rely on the experience of the forestry manager and may invest locally or internationally and in different types of forestry assets. • They are generally illiquid assets that can be difficult to exit at other than the predetermined end date set by the fund manager.
Listed forestry funds	• There are a number of international forestry funds listed on various stock exchanges, each with varying investment strategies and geographical focus. • While a listing will mean these funds have greater liquidity, the funds are likely to trade at a discount and can be affected by general adverse news about the industry. They are thinly traded and so liquidity can quickly dry up.
Special purpose vehicles	• Asset management companies will source an investable project, asset or company that requires funding, and then form an SPV as a conduit to raise the required capital to make the investment. • These are suitable only for experienced investors capable of bearing the associated risks.

Some of the characteristics of investing in forestry include:

- they offer an element of diversification away from traditional asset classes, and
- timber only needs to be harvested when the market is growing and demand is high, meaning that it can provide a hedge against inflation.

Given the illiquid nature of forestry investment, it is important to give careful consideration as to whether an investor is capable of bearing the economic risk of holding the fund in the long term.

5. Analysis of Collective Investments

Learning Objective

3.2.1 Know the key factors to consider when selecting collective investments: quality of firm, management team and administration; investment mandate – scope, controls, restrictions and review process; investment strategy; exposure, allocation, valuation and quality of holdings; prospects for capital growth and income; asset cover and redemption yield track record compared with appropriate peer universe and market indices; tax considerations; key person risk (KPR) and how this is managed by a firm; shareholder base; measures to prevent price exploitation by dominant investors; initial and ongoing costs; liquidity, trading access and price stability; suitability

3.2.2 Be able to analyse the relative merits and limitations of investing in a collective investment fund compared with other forms of direct and indirect investment, in terms of: risks; investment performance; tax treatment; turnover, liquidity and access; initial and ongoing costs; management and administration; closet trackers

3.2.3 Be able to analyse the key features, relative merits, and limitations of investing in absolute return funds compared with other forms of direct and indirect investment: structure; income and capital growth; investment risk and return; expenses; capital protection; monitoring performance vs benchmark

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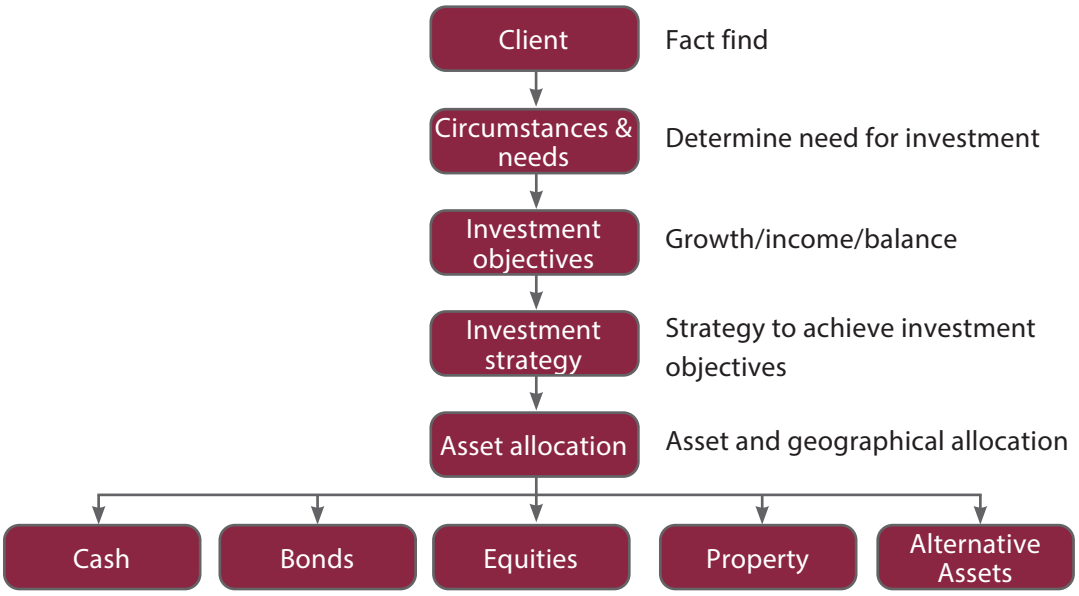
Given the wide range of investment funds available to wealth managers, a structured approach is needed when deciding whether they are suitable for an investor's needs, and then to be able to apply a selection or filtering mechanism that will allow for appropriate analysis of potential investment solutions.

Before investment funds can even be considered, the wealth manager needs to have undertaken a thorough analysis of the client's circumstances and needs. From this, they will determine and agree a set of investment objectives with the client, and design an investment strategy to meet those objectives.

Diagrammatically, this can be seen as follows:



The investment strategy will need to determine the strategic allocation between different asset classes and the geographic allocation that will best meet the client's needs. There will then follow an analysis that will decide whether investment funds are a suitable solution for some or all of the client's investment objectives, followed by a selection mechanism that can identify potential funds for consideration. The due diligence on those funds will need to take into account a whole series of factors, including the fund's investment strategy, its investment approach, charges and the associated risks to identify suitable investment funds.

Some of the factors that need to be analysed for each of these steps include the following:

Indirect investments	• Choice of direct versus indirect investments. • Whether open or closed-end funds are more suitable. • Choice between passive and **active management**.
Selection or filtering mechanism	• Use of fund ratings and fund fact sheets.
Fund investment strategy	• Investment mandate. • Investment approach used. • Results of investment performance metrics.
Charges	• The level of initial and exit charges and any performance fees. • Expense ratio compared to other funds. • Impact of portfolio turnover on the fund's costs.
Specific risks	• Fund structure, **liquidity risk**, counterparty risk and other risks.

The table summarises the areas that need to be considered; it is not intended to be definitive but to provide a framework for us to look at each of the areas that must be analysed to identify suitable solutions.

5.1 Indirect Investments

When constructing an investment portfolio, a wealth manager needs to consider whether investment funds should be included in the client's portfolio, the scale of diversification needed, whether open or closed-end funds are more suitable, and whether actively-managed or passively-managed funds should be selected.

5.1.1 Direct versus Indirect Investments

When constructing a portfolio, a wealth manager needs to choose whether direct investments will be held – in this context, direct investments mean individual holdings of bonds and equities and indirect investments refer to investment funds. In practice, when constructing portfolios, investment funds will have a role to play in nearly all of them.

To illustrate this, let us assume that we are constructing a portfolio for a client with $500k to invest, with a balanced attitude to risk, and that the high level asset allocation is simply 65% in equity shares and the remaining 35% in bonds. Within this, we will assume that the bond allocation is biased towards government and high-grade corporate bonds and that the equity allocation follows a geographic **weighting** similar to the MSCI World Index. This gives us the following allocation, which we will assume is suitable for the client's needs, investment objectives and risk profile:

Bonds	%	$	Equity	%	$
Government bonds	50%	87,500	US	63%	204,750
Investment grade corporate bonds	40%	70,000	Japan	8%	26,000
High-yield bonds	10%	17,500	UK	6%	19,500
			France	4%	13,000
			Canada	3%	9,750
			Other	16%	52,000
		$175,000		100%	325,000

Looking first at the bond allocation, the client has sufficient funds to have direct holdings of government bonds but insufficient funds to buy sufficient investment grade bonds or high-yield bonds to gain adequate diversification. Investment funds will, therefore, be the sensible choice for this allocation. A similar conclusion can be drawn with the equity allocation where there are sufficient funds for direct holdings of US large cap shares, but insufficient funds for the other markets meaning that exposure will need to be gained through investment funds. Investment funds will, therefore, have a significant role in construction of a suitable portfolio so that sufficient diversification can be achieved.

Where a client has greater sums to invest, investment funds will still have a key role to play in the portfolio. By contrast, where a client has less to invest, investment funds may be used to provide the investment solution for each of the asset class allocations.

5.1.2 Open- or Closed-End Funds

Within the various sectors that funds are allocated, a wealth manager will need to decide whether open-end funds or closed-end funds are the more suitable vehicle. As we have already seen, there are significant differences between both types of fund; each has their advantages and disadvantages. These need to be taken into account when selecting which is appropriate for the intended investment, and which is most suitable for the client.

Closed-end funds are often most suitable for investment strategies that invest in illiquid assets or long-term strategies, such as private equity, hedge funds, and infrastructure. Open-end funds, by contrast, are most suitable for highly liquid assets, such as equities and government bonds.

One factor that investment managers should factor into their considerations is that for some asset classes or strategies there is often a choice between an open-end fund and closed-end fund. An example is property. Many property funds are structured as open-end funds which means there is a mismatch between the daily liquidity of an open-end fund and the illiquid nature of property as an investment. Open-end funds will need to hold substantial cash reserves to meet investor redemptions with a resulting drag on investment performance and when there are significant numbers of investors selling their shares the fund may need to impose restrictions on the ability to deal. A investment manager, therefore, needs to carefully assess and balance the advantages and disadvantages of each type of vehicle.

5.2 Fund Evaluation

Investment funds are usually promoted on the basis of their past performance and level of charges. One of the most frequently asked questions in the investment world is 'Is past performance a reliable guide to future performance?' Another way of phrasing this question would be to ask 'what is the probability of this year's above-average performing fund still being an above-average performer next year?'

One of the greatest myths perpetuated by many product providers is: the better a fund's past performance, and the higher its level of charges, the greater its chances of outperforming the peer group in the future.

Although past performance provides *prima facie* evidence of a fund manager's skill and investment style, as well as evidence of the risks taken to generate this performance, against this must be weighed the possibility of:

- **chance** – the chance that good performance could be the result of luck not skill, and
- **change** – even if good performance is attributable to skill, very few investment managers manage the same portfolio for any considerable length of time; moreover, manager skill, especially an ability to exploit a particular investment style or to be able to rotate between styles, is rarely consistent in changing market conditions.

A simple conclusion can be reached: past performance should never be used as the sole basis on which to judge the suitability of a fund or, indeed, be relied upon as a guide to future performance. Moreover, it goes without saying that funds that impose high charges will put the investor at an immediate disadvantage and prove to be a significant drag on subsequent fund performance.

Unsurprisingly, this leads to a significant amount of research being undertaken. There are a number of independent ratings agencies that provide ratings for investment funds, most of whom provide this data free of charge to financial advisers. The majority of these ratings are based on risk-adjusted past performance, though some place considerable weight on qualitative factors, such as how a portfolio manager runs their fund. However, even the evaluation of qualitative factors only provides an indication of how a certain portfolio manager is likely to perform when adopting a particular investment style under specified market conditions.

5.2.1 Fund Documentation

Investment funds are required to produce and keep up to date a series of documents that provide comprehensive information to investors and their advisers that allow them to make an informed decision before investing in a fund.

Fund Information	
Fund prospectus	• The prospectus has to be kept up to date and made available to current and potential investors. • The document sets out details of the investment objectives of the fund and the strategies it uses, along with details of the fund manager and the trustee or depositary. It will also set out the different share classes, its charges, the process used for valuation and pricing, how investor dealing takes place and how income will be distributed or reinvested.
Key Information Document (KID)	• Most countries require funds to produce a summary document describing the funds and its associated risks known by titles such as a key information document (KID) or a key investor information document (KIID) in Europe. • As an example, the rules for a KIID require that it must be clearly identifiable as such and must follow a required format so that there is clear consistency across the whole range of UCITS funds in all member states. A KIID must be produced for each sub fund and the key elements that must be included in the document are shown in the table that follows.

Candidates should note that there are proposals at the time of writing in the UK to remove the KID and replace this with a new document in respect of 'Consumer Composite Investments'.

Key Investor Information Document (KIID)	
Objective and investment policy	• The first section requires a clear description of the fund's objectives and investment policy. • The types of assets that will be invested in and whether any particular market or sector is targeted. • The types of shares and when dealing takes place. • Whether any income arising from the fund is distributed or reinvested.
Risk and reward profile	• The second section must contain a synthetic risk reward indicator to evaluate the level of risk that investment in the particular fund represents. • There should also be a narrative explanation of the indicator and its main limitations.
Charges for this fund	• The third section concerns charges for the fund which have to be presented in a prescribed format. • It should contain details of any entry or exit charge and the amount of ongoing charges, each of which should be clearly distinguished. • Performance fees must be disclosed separately.
Practical information	• This contains details of the trustee or depositary and other items such as how to obtain further information.

5.2.2 Independent Fund Ratings

There are many independent ratings agencies that provide ratings for investment funds, most of whom provide this data free of charge to financial advisers.

Some of the main ratings agencies and the differing approaches they adopt are shown as follows:

- **Lipper** – a fund-rating system that provides a simple, clear description of a fund's success in meeting certain investment objectives, such as preserving capital, lowering expenses or building wealth.
- **Standard & Poor's (S&P)** – a quantitative screening approach to identify the range of funds which it will rate. It assesses historical performance to identify the top 20% of funds for further detailed quantitative and qualitative analysis.
- **Morningstar** – a qualitative rating system which gives an assessment of a fund's investment merits. Its approach uses a combination of past performance and predictions of future performance. Funds are then allocated a Morningstar qualitative rating against a peer group of pan-European and Asian funds.

The majority of these ratings are based on risk-adjusted past performance, though some place considerable weight on qualitative factors, such as how a portfolio manager runs their fund. However, even the evaluation of qualitative factors only provides an indication of how a certain portfolio manager is likely to perform when adopting a particular investment style under specified market conditions.

As well as assessing the fund itself, many believe it is important to consider individual fund manager ratings as well. Fund managers regularly switch funds and jobs, so the top-performing funds are not necessarily being run by the managers who were responsible for their high-performance levels.

Ratings agencies will also evaluate fund manager's performance. They produce fund manager ratings to identify the individual managers who have the best risk-adjusted personal performance track records over a number of years. Their rating approach often uses a version of the information ratio to identify which fund managers are adding value to their funds in terms of outperformance against their benchmark.

Although none of these ratings agencies claim to have predictive powers, they seek to provide a valuable tool for financial advisers to filter out those funds that consistently underperform. Indeed, research tends to suggest that funds awarded a top rating by one of these ratings agencies improves upon the 50:50 chance of that fund being an above-average performer in the future.

5.2.3 Fund Fact Sheets

With so many funds available, the ratings agencies provide a valuable way of filtering them down to a manageable number that an adviser can use to review whether they are suitable for inclusion in a portfolio.

Once the universe of possible funds has been filtered down to a more manageable level, it is necessary to drill down into the detail of these particular funds and this can be achieved using the readily available fund fact sheets. The typical content of a fund fact sheet includes:

- investment objectives
- fund profile and its asset allocation
- portfolio composition
- portfolio turnover
- fund performance, and
- risk measures.

The risk measures section assesses the fund using a variety of industry-standard measures which are discussed in the following section.

5.3 Fund Investment Strategy

Analysis of a fund's investment strategy and approach are essential when trying to identify a suitable investment fund solution.

5.3.1 Investment Mandate

A fund's investment mandate is a statement of its aims, the limits within which it is supposed to invest and the investment policy it should follow.

Fund Mandate

A fund mandate will typically define the following:

- The aim of the fund (eg, to generate dividend income or long-term growth).
- The type of strategy it will follow (which will tend to follow from the above).
- What regions it will invest in (such as the US, Europe and emerging markets).
- What sectors it will invest in.
- What types of securities it will invest in (such as equities, bonds or derivatives).
- Whether the fund will use derivatives and whether it will be hedged.
- Whether it will be geared and, if so, to what extent.
- A benchmark index that the fund aims to beat (or match, if it is a tracker fund).
- The maximum error in tracking the benchmark.

Fund mandates are set by the fund management company, but publicised so that investors can choose a fund that suits their requirements.

The asset allocation of the fund will be decided by the management team and there is often scope for a fair degree of discretion. However, if the mandate or trust deed for the fund is very specific then there will be much less freedom for the class of assets and individual securities that the manager can select for the fund.

5.3.2 Investment Approach

Investment funds adopt different approaches to investment or investment styles.

The most widely recognised investment styles are the following:

- **Value** – this is the oldest style and is based on the premise that deep and rigorous analysis can identify businesses whose value is greater than the price placed on them by the market. By buying and holding such shares, often for long periods, a higher return can be achieved than the market average. Managers of 'equity income' or 'income and growth' funds often adopt this style, since 'out of fashion' stocks often have high dividend yields.
- **GARP** – 'growth at a reasonable price' is based on finding companies with long-term sustainable advantages, in terms of their business franchise, quality of management, technology or other specific factors. Proponents argue that it is worth paying a premium price for a business with premium quality characteristics. The style is used mainly by active growth managers.
- **Momentum** – momentum is an investment strategy that aims to capitalise on the continuance of existing trends in the market. The momentum investor believes that large increases in the price of a security will be followed by additional gains and vice versa for declining values. This is the strategy most widely adopted by middle-of-the-road fund managers.
- **Contrarianism** – the concept behind contrarian investing is that high returns can be achieved by going against the trend. Correctly judging the point where a trend has reached an extreme of optimism or pessimism is both difficult and risky. This style is found most often in hedge fund managers.

In practice, successful managers usually develop their own personal styles over a period of years, usually based on one or other of the major styles outlined above.

Wealth managers need to carefully assess the advantages and disadvantages of the investment style adopted as this can have a significant effect on investment performance and risk.

5.3.3 Investment Performance Metrics

In chapter 4, we will look at the risk and return metrics that can be used to measure portfolio performance. There is inevitably an overlap between these and the performance metrics used to assess investment funds, so we will look at some of the measures here and then return to them later.

These measures assess a fund's volatility, as well as looking at its risk against a given benchmark, and typically include the following:

- **Standard deviation** – this measures the dispersion of the fund's returns over a period of years. Funds with a higher standard deviation are generally considered to be riskier.
- **R-squared** – this measures the degree to which the fund's performance can be attributed to the index against which it is benchmarked. For example, if a fund is benchmarked against the S&P 500, and has an R-squared of 80%, this would indicate that 80% of its returns can be attributed to movements in the index itself.
- **Information ratio** – this is a measure of the risk-adjusted return achieved by the fund. A high information ratio indicates that when the fund takes on higher risks (so that its standard deviation rises), it increases the amount by which its returns exceed those of the benchmark index. It is, therefore, a sign of a successful fund manager.

- **Sharpe ratio** – this is simpler and measures the fund's return over and above the risk-free rate. The higher the Sharpe ratio, the better the risk-adjusted performance of the portfolio and the greater the implied level of active management skill. However, the Sharpe ratio makes no allowance for the extra risk incurred in achieving those higher returns.

5.3.4 Closet Trackers

Funds usually choose an index to be their performance benchmark and the index will match the region or sector the fund invests in.

The use of indices as benchmarks is one of the reasons why so many different ones exist: they need to match the variety of funds. Even so, some funds and portfolios are better served by using a composite of several different indices.

One danger this brings is that it tempts managers to track their benchmark index and avoid the risk of under-performing rather than genuinely trying to beat it. Supposedly actively managed funds, therefore, become what are known as 'closet trackers':

- As an actively managed fund becomes larger, so its performance may suffer. The fund manager has less time to conduct in-depth research and monitor each of the fund's holdings, and may move the market against the fund if they were to trade a sizeable amount of stock.
- By contrast, size works in favour of passively managed funds, especially those that employ full replication, as large funds can spread their costs over a wider base.

Another factor to be aware of is survivorship bias. This is the tendency for failed companies to be excluded from performance studies because they no longer exist. It often causes the results of studies to skew higher because only companies which were successful enough to survive until the end of the period are included. For example, a fund company's roster of funds today will include only those funds that are successful now. Many poorly performing funds are closed and merged into other funds to hide poor performance and/or to mitigate the impact on performance of fixed charges on smaller funds.

5.4 Charges

Investment funds will impose charges for the investment management services they provide; it is important to understand the various types, how they may be presented and the impact of the charges made.

5.4.1 Expense Ratios

As we have already seen, open-end funds may impose initial charges, management fees, performance fees or exit charges. Other charges are also levied against a fund's assets, such as distribution and marketing expenses, and auditors' and custodian fees. As a result, investment funds publish an indication of the overall charges, known as an total expense ratio which is usually stated in terms of a percentage of the fund's assets that is taken to cover costs.

It should be noted that a fund's expense ratio covers costs such as the management fee and other direct expenses incurred by the fund; it does not include initial or exit charges. The level of charges can have a significant impact on investment returns and should be a consideration when selecting funds. It is important to, therefore, understand what makes up the expense ratio and what is considered a 'good' expense ratio.

In the US, a mutual fund is required to disclose its shareholder fees and operating expenses in the form of a standardised fees table in its prospectus:

- The shareholder fees table includes sales charges and redemption fees. It also sets out any exchange fee which may be charged when switching between funds, any account fee that may be imposed if the account falls below a particular level and, in some cases, a purchase fee that funds may charge to defray the costs associated with a purchase.
- The operating expenses table shows management fees, distribution fees and other expenses. It must also show the total annual fund operating expenses expressed as a percentage of the fund's average assets.

In Europe, funds are required to disclose a TER or an ongoing charges figure (OCF):

- The costs included in the TER are all the annual operating costs, principally the annual management charge, but also administration fees, and trustee and audit fees. It also includes any performance fee, although this may be shown in a separate field. The total cost of running the fund is divided by the fund's total assets and the TER is then expressed as a percentage.
- Many funds must now provide a KIID to investors which displays an ongoing charge figure rather than the TER. The OCF is similar to the TER, but it does not include performance fees, as these can vary depending on how well or badly a fund performs.
- It should be noted, however, that neither the TER nor the OCF include entry or exit charges paid directly by investors, interest on borrowing, brokerage charges nor dealing costs.

Fees and expenses vary from fund to fund, and the amount charged may depend on the fund's investment strategy. A fund with high costs must perform better than a low-cost fund to generate the same returns for the investor. Even small differences in fees from one fund to another can add up to substantial differences in investment returns over time.

5.4.2 Performance Fees

At one time, performance fees were only found in hedge funds, but their use has spread to their funds, such as absolute return funds, and it is, therefore, important to understand how these are charged and the terminology used.

Asset management companies may choose to introduce, in addition to a fixed management fee, a performance fee based on the performance of the fund in relation to its investment management objectives. The imposition of such a fee will need to meet regulatory requirements and the best practice standards set by IOSCO that state:

- it does not incite the asset management company to take excessive risks in the hope of increasing performance
- it is consistent with the performance objective and risk profile of the fund

- the calculation of the performance can be verified to prevent any potential manipulation
- it does not breach the principle of equal treatment of investors, and
- investors know that there is an outperformance fee and are aware of its potential impact on the performance of the fund.

There a number of ways in which performance fees are calculated; some of the most common characteristics are shown in the following table:

Features of Performance Fee Calculations	
Benchmark	• A benchmark will be specified for the performance of the fund to be compared against. This may take the form of an index or a target annual return.
Reference period	• There will be a defined period during which performance of the fund is calculated and any excess performance over a benchmark is determined. • At the end of the period, the provision for performance fees becomes payable to the asset management company. • The reference period is often based on the fund's accounting period.
Calculation method	• Performance is calculated by comparing the change in the fund's NAV with that of the benchmark over the same period. • Depending on the method used, this can take the form of a percentage growth rate or an amount in the currency used by the fund.
Other provisions	• Any performance fee may only become payable if the outperformance exceeds a certain level – a hurdle rate. • There may be a mechanism for compensating for past underperformance, such as a high watermark where performance fees do not become payable until the fund value once again exceeds that level. • There may also be an upper limit on the amount that can be charged or the amount of outperformance.

The rationale offered for performance fees is that it allows the interests of the asset management company to be aligned with those of the investors by involving the asset management company directly in the fund's performance in relation to relevant performance objectives. Critics, however, point out that many funds with performance fees do not produce returns that warrant the fee being charged.

5.4.3 Portfolio Turnover

Portfolio turnover measures how frequently the assets within a portfolio are bought and sold by the fund manager. It is calculated by taking either the total amount of securities purchased or the total amount of securities sold, whichever is the lower, and then dividing this by the fund's average monthly NAV. The result is usually reported over a 12-month time period.

Portfolio turnover is relevant as it indicates the amount of trading that the fund undertakes and, therefore, provides an indication of the brokerage costs that it will have incurred. Brokerage costs are not included in the expense ratio but can represent a significant expense that can impact fund performance.

A fund with a high turnover rate will incur more transaction costs than a fund with a lower one. Unless the superior asset selection renders benefits that offset the added transaction costs they cause, a less active trading posture may generate higher fund returns.

5.5 Risks

There are a number of risks inherent in using investment funds over and above the ones associated with direct investments.

5.5.1 Risk Rating

Like all investments, investment funds are subject to a series of risks.

Fund regulations require that a detailed prospectus is prepared for every fund and that within this is described the particular risks that the fund is exposed to. Many funds will also produce a shorter document with key information (KID/KIID) which will be written in a more user-friendly style, and which will explain the types of risk an investor might face, and the ways in which the fund attempts to mitigate these risks.

Some of the types of risk that most investment funds encounter are shown in the following table:

Fund-Specific Risks	
Liquidity risk	• Generally speaking, funds that invest in smaller companies and shares in emerging markets are traded less frequently than larger ones and so are subject to greater liquidity risk. • This means that there may be difficulty in both buying and selling shares so individual share prices may be subject to short-term price swings.
Credit risk	• There is always a credit risk associated with investing in bonds. • With investments in lower-grade corporate bonds there is a higher risk that the issuer will not meet its debt obligations. • The higher the credit risk, the greater the likelihood of a failure to pay interest or capital when due.
Currency risk	• Investments made overseas may be affected by movements in exchange rates, which may cause the value of the underlying investment to rise and fall.
Concentration risk	• Due to the concentrated nature of many investment portfolios, short-term volatility in the price could have a relatively high impact on the fund's value and also on its performance.

The description of the relative risks faced by investors will vary from country to country depending upon the regulations in place. As an example, we will look at the synthetic risk-reward indicator that European UCITS funds are required to report in their fund literature in order to help investors make an assessment of the level of risks associated with the fund.

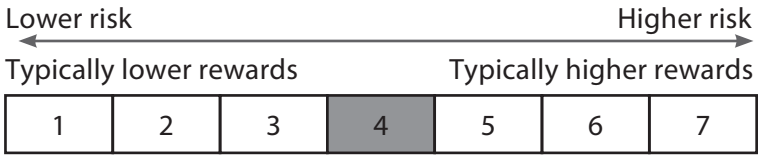
The key elements that have to be included in the key investor information document (KIID) are shown in the following table:

KIID	
Objective and investment policy	• The first section requires a clear description of the fund's objectives and investment policy. • The types of assets that will be invested in and whether any particular market or sector is targeted. • The types of shares and when dealing takes place. • Whether any income arising in the fund is distributed or reinvested.
Risk/reward profile	• The second section has to contain a synthetic risk/reward indicator to evaluate the level of risk that investment in the particular UCITS fund represents (see below).
Charges	• The third section concerns charges for the UCITS fund. For this, there is a prescribed form of table to be included in the KIID. • It should contain details of any entry or exit charges and the amount of ongoing charges, each of which should be clearly distinguished. Performance fees have to be disclosed separately.
Practical information	• This is the final section and contains details of the trustee or depositary and other items such as how to obtain further information.

The KIID must be provided in good time before the proposed subscription in a UCITS by the prospective investor is made. It must be reviewed at least every 12 months (in line with the existing requirements for updating a prospectus). In addition, a review must be carried out prior to any proposed change to the prospectus, the fund rules or the instrument of incorporation. Any revised version must be made available promptly.

Note that a KIID only exists for a UCITS fund – although the PRIIPs (packaged retail and insurance-based investment products) regulation introduced, in practical terms, the requirements for the fund manager of a NURS to draw up a key information document (KID) – whilst the approach and layout between the documents for UCITS and NURS are similar, there are differences. In practical terms in the UK, a fund manager operating both UCITS and NURS funds is able to adopt a standard format across its fund range upon receipt of a waiver and, therefore, typically known as a NURS-KII document instead. You may, however, come across PRIIP documents in other European jurisdictions.

Synthetic Risk-Reward Indicator



The indicator should be based on the volatility of past returns and has to be calculated to a prescribed formula that uses weekly data covering the last five-year period, which is then rescaled to a yearly basis. The synthetic risk-reward indicator will then correspond to a number designed to rank the fund over a scale from one to seven, according to its increasing level of volatility.

Risk Class	Volatility		Description
	Equal or above	Less than	
1	0%	0.5%	Generally considered low risk, typical of money market or short-term bond funds.
2	0.5%	2%	
3	2%	5%	Generally considered medium risk, including balanced funds, corporate bond funds, or global equity funds.
4	5%	10%	
5	10%	15%	
6	15%	25%	Generally considered high risk, associated with funds experiencing high price volatility, such as emerging market equity or sector-specific funds.
7	25%		

There should also be a narrative explanation of the indicator and its main limitations. The intention behind the requirement to include a risk-reward indicator is to enable investors to more easily match funds with their personal risk profile.

While risk descriptions may vary from country to country, from a wealth manager's perspective, the key is to understand what any indicator is suggesting – the basis for its calculation and how to analyse that in order to match funds with the risk profile of the client.

5.5.2 Fund Structures

The quality of the fund management company and its fund management team can be a key component of a successful fund, but they warrant closer investigation. Some factors to consider include the following:

- **Track record** – a fund with a good past performance record may be able to repeat the performance in the future, but statistical surveys have, however, suggested that past performance is not an indicator of future performance. There is no assurance that a fund with a successful manager will be able to retain the services of the manager over extended periods.

- **Investment mandate** – it is important to understand the fund's mandate and, in particular, the boundaries that the actual fund manager needs to operate within, in addition to what the fund manager can and cannot invest in, and to what extent. This is important as a forward-looking risk indicator. If a fund is chosen as it is in a balanced risk category because of its asset allocation, the investor does not want the manager to dramatically change the asset allocation into high-risk investments.
- **Administration** – from the client's perspective, the support functions of investment funds are sometimes a major source of differentiation. With many funds to choose from, and often very little in terms of performance differentiation, the funds which have the best methods of communicating with clients, and following the best procedures with respect to administration, may have a competitive edge.
- **Survivorship bias** – this is the tendency for failed companies to be excluded from performance studies because they no longer exist. It often causes the results of studies to skew higher because only companies which were successful enough to survive until the end of the period are included. For example, a fund company's roster of funds today will include only those that are successful now; many losing funds are closed and merged into others to hide poor performance.

Key Person Risk (KPR)

One important risk for investors in certain high-profile funds relates to the possible loss of a key manager. Firms which rely heavily on the input of a 'star' manager can find themselves subject to large-scale redemptions if the manager leaves. This can lead to loss of capital, the possible recall of any borrowed funds and reputational damage. Fund management companies have devoted considerable resources to reducing the impact of such figures and, as a result, how effectively a fund performs normally derives from a number of factors and rarely from just the individual. These factors are dynamic, emphasising that wealth managers need to look more closely at what makes the fund tick – the manager, the process, the wider team and the support systems.

Fund Size

Generally speaking, as an actively managed fund becomes larger, so its performance may suffer, although this does depend on the actual strategy and the asset class invested. The reasons for this can be many; here are some examples:

- A fund manager may have, at any one point in time, a finite number of best ideas. Sales flows often lag fund performance and coincide just as a fund manager's approach/style is out of favour. This is often referred to as 'reversion to mean'.
- The fund manager may find it increasingly difficult to exploit opportunities as the size of each individual trade is forced to grow in order to have a meaningful benefit. They may move the market against the fund if they were to trade a sizeable amount of stock.
- Equally, a smaller company's fund may become a victim of their own success and receive more and more money in and, hence, will no longer be able to invest all the new money into small cap stocks due to a lack of availability. Equally, the larger the holding the more difficult it becomes to get out of smaller stocks because of an inherent lack of liquidity.
- Some funds struggle if they increasingly add positions to cover growing assets, often referred to as 'adding tail risk' or 'dilution'.
- Many larger funds often have more than 50 holdings due to the weight of funds invested. If the number of holdings increases, then the fund manager has less time to conduct in-depth research or monitor each of the fund's holdings.

- Some managers may deliberately move their strategies closer to matching the index, in order to reduce tracking error, as funds grow in size. In recent years, studies have increasingly shown that many large funds track their benchmark index and are, in effect, closet trackers.

Governance Arrangements

The governance and investor protection arrangements in place for most funds are designed to ensure investor protection, and the absence of any major scandals concerning investment funds probably points to their robustness.

It is important to remember, however, that oversight will be divided depending on the structure among:

- the directors of the investment management company
- the depositary, trustee or custodian
- independent auditors, and
- supervisory authorities.

Wealth and investment managers, however, cannot take such arrangements for granted, and when evaluating a fund it essential to include consideration of the legal structure and the effectiveness of the governance and investor-protection arrangements. This is even more the case for non-mainstream funds which may invest in illiquid or exotic assets and where the risks of mispricing are greater.

5.5.3 Liquidity Risk

The liquidity of investment funds and open-end funds in particular, has become a major concern for regulators and, as a result, a wave of fund liquidity risk regulations is rolling out in many jurisdictions.

A key risk is the potential mismatch in open-end funds between the liquidity of fund investments and the daily redemption of fund units. Open-end funds offer short-term, often daily, liquidity to investors, notwithstanding that the liquidity of fund investments varies across different open-end funds, and also varies over time for any particular fund. A related risk is that wealth managers and other investors do not appreciate the high cost or difficulty associated with a fund having to exit its positions to raise funds to meet high levels of investor redemptions or to liquidate holdings in stressed market conditions, for example, property funds, resulting in fund suspensions.

This risk, among others, led the Financial Stability Board (FSB) to investigate the systemic risks posed by the asset management industry and identify a number of vulnerabilities that required a coordinated approach to address. They required the IOSCO to review guidance to national regulators, in 2018, it issued a set of standards requiring national regulators to implement new policies on liquidity management.

This emphasises the need for wealth managers to undertake due diligence on the risks posed by the open-end funds that they are considering for investors.

5.5.4 Counterparty Risk

Counterparty risk refers to the risk that a counterparty to a transaction will fail to perform their obligations under the contract which could cause a trade to fail or an **over-the-counter (OTC) derivative** to become worthless, negating a hedging strategy.

When selecting a fund, it needs to be established whether the fund uses derivatives or swaps to achieve a required performance, such as with a tracker fund, or whether the fund engages in securities lending. If so, it may be exposed to counterparty risk. It is important to understand the extent of this, how it is managed and how it affects the risk of the investment.

5.5.5 Other Risks

Tracking Error

Tracking error is particularly relevant for ETFs and index mutual funds and shows how closely a fund's performance matches its benchmark index, that is, the standard deviation.

Passively managed portfolios seek to replicate index returns and minimise tracking error which is often measured as the difference between a portfolio's return and the return of the benchmark or index it was meant to match. Index funds are expected to mirror the returns of an index, minus the expenses of running the portfolio, known as the 'management expense ratio'.

A low tracking error means that a portfolio is closely following its benchmark, while a high tracking error indicates the opposite. There are a number of reasons why tracking error can take place, and it is important to be aware of what the deviation is and the possible reasons:

- Optimisation can result in tracking error because the portfolio is holding fewer stocks than are contained in the index in order to minimise trading costs.
- The timing of cash dividend payments can create a drag on a portfolio's performance. Most indices assume that the receipt and reinvestment of dividends occur earlier than in reality.
- Some indices are more difficult to track than others, for example bond indices.
- Index funds that track less-liquid markets or securities tend to diverge from the underlying securities because of the difficulty in trading these.
- An index fund may have limits on the maximum allocation that can be made to an individual security. If an index is dominated by a number of large stocks, then the fund may be unable to replicate this and may have to adjust for it instead.

Most index fund providers believe that some amount of tracking error is inevitable. Each index fund has different factors that affect the amount of tracking error that occurs and so it is important to check reported performance and understand how the portfolio is constructed and how the fund goes about replicating the performance of an index.

Bond ETFs and index mutual funds may carry a greater risk of tracking error than equity ones. Bond indices are often constructed in an entirely different way from equity indices and this may have an impact on any index tracker products designed to mirror their performance. Most bonds are not as liquid as equities, and on moving away from government bonds, liquidity drops dramatically. This lack of frequent trading presents issues for the calculation of bond indices. It means that the index

calculation needs to use price estimates in determining index values. The implication is that funds that track bond indices have to use their own valuation models, which can produce results that are at variance with the index.

Discounts and Premiums

The shares in closed-end companies generally trade at a discount to their NAV.

Many funds have control policies in place that attempt to limit the extent of the discount. Some will state a specific discount target level which, if breached, will prompt them to take action. The most common type is a share buyback, but others include tender offers, restructuring and continuation resolutions.

Discount Control Mechanisms	
Share buybacks	• This is the most common measure and involves the company buying back its own shares and then cancelling them. This bolsters the fund's NAV per share, but it means the fund's costs as a proportion of total assets increase. • Share buybacks can be effective for large funds but less practical for smaller ones with fewer assets under management. Similarly, they are less useful for funds which invest in illiquid asset classes as the fund may not be able to raise sufficient cash to execute the share buyback upon breach of any target.
Tender offers	• This involves the fund offering to acquire shares for cash usually at or close to the fund's NAV. • There may be limits on the amount that can be tendered and the costs may be factored into the tender price to reduce the impact on remaining shareholders.
Restructuring	• This option may be used when the board thinks a buyback or tender offer may not produce the desired results. • It may involve converting the fund into an open-end fund or a change in its investment strategy to try to unlock value for shareholders.
Continuation resolutions	• To keep discounts from growing too wide, some funds promise to hold continuation resolutions on the fund's future in the event of the discount breaching a pre-specified trigger. • This would require shareholders to vote in favour of winding up the company so that all assets are realised and cash distributed to shareholders.

The extent of discounts is widely quoted as an incentive to buy closed-end fund shares because of the investment opportunity they represent. It is important to remember, however, that in volatile markets discounts can widen significantly and can be value destroying for existing investors.

Leverage

The use of leverage allows a closed-end fund to raise additional capital through borrowing money which it can use to buy more securities for its portfolio. Leverage can magnify shareholder gains, but it can also magnify losses too:

- If a fund borrows money in the expectation that the market will rise, and it does so, the return to shareholders will be even greater.
- If markets fall and the performance of the portfolio is poor, then the losses made are magnified due to the cost of borrowing.

When looking at a fund's leverage, it is important to understand the true extent of its borrowing so funds will often quote net and gross figures:

- The gross figure represents the actual amount of borrowing, while the net amount sets off any cash held by the fund.
- If the fund's borrowing is long dated, however, there may be penalty costs involved in repaying early so analysis of its debt structure is needed.

The use of leverage presents risks for shareholders over and above what would be seen with an open-end fund. The NAV and the returns earned will be more volatile and if short-term interest rates rise, the cost of leverage will increase, most likely reducing the returns earned by the fund's shareholders.

As gearing can work to either the advantage or to the detriment of the investor, this may make closed-end funds a more risky proposition than open-end funds.

6. Life Assurance-Based Investments

Learning Objective

3.5.1 Be able to analyse the key features, relative merits and limitations of investing in onshore and offshore life assurance-based investments compared with other forms of direct and indirect investment: risks; investment performance; tax treatment (offshore, onshore); turnover, liquidity and access; initial and ongoing costs; management and administration; product development and popularity in different jurisdictions

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A life assurance policy can be thought of as a wrapper within which are held some form of investment. Some of the basic principles of life assurance policies are noted in the table that follows.

Basic Principles of Life Assurance	
Proposer	• The person who proposes to enter into a contract of insurance with a life insurance company to insure themselves or another person on whose life they have an insurable interest.

Basic Principles of Life Assurance	
Life assured	• The person on whose life the contract depends is called the 'life assured'. • Although the person who owns the policy and the life assured are frequently the same person, this is not necessarily always the case. • A policy on the life of one person, but effected and owned by someone else, is called a 'life of another' policy. A policy effected by the life assured is called an 'own life policy'.
Single life	• A single life policy pays out on your death or if some other insurable event occurs, such as if you are diagnosed with a terminal illness and have critical illness cover.
Joint life	• Where cover is required for two people, this can typically be arranged in one of two ways: through a joint life policy or two single life policies. • A joint life policy can be arranged so that the benefits would be paid out following the death of either the first or, if required for a specific reason, the second life assured. The majority of policies are arranged ultimately to protect financial dependants, with the sum assured or benefits being paid on the first death. • With two separate single life policies, each person is covered separately. If both people assured were to die at the same time, as the result of a car accident for example, the full benefits would be payable on each of the policies. If one of the lives assured died, benefits would be paid for that policy, with the surviving partner having continuing cover on their life. Because the levels of cover are effectively doubled when compared to one joint life policy, the costs of two single-life policies will generally be a little higher, but are unlikely to be twice as high. Therefore, using two single life policies to provide cover usually represents good value for money.
Insurable interest	• If you want to buy a life insurance policy on someone else's life, you must have an interest in that person remaining alive, or expect financial loss from that person's death. This is called an 'insurable interest'.

There is a wide range of variations on the basic life policy that are driven by mortality risk, investment and expenses and premium options – all of which impact on the structure of the policy itself. Mortality risk deals with the expected life of the person insured, whether any additional charges might be imposed and the level of risk borne by the life company, which can affect the cost of the cover provided.

Life assurance-based investments typically follow one of three structures – non-profit, with-profits and unit-linked.

Types of Life Assurance Policies	
Non-profit	• A non-profit policy is one that is for a guaranteed sum only, where the insured sum is chosen at the outset and is fixed.
With-profits	• With-profits policies pay a guaranteed amount, plus any profits made during the period between the policy being taken out and death. • They are typically used to build up a sum of money to buy an annuity or pension on retirement, to pay off the capital of a mortgage or, in the case of whole-of-life assurance, to insure against an event such as death. • One advantage of with-profits schemes is that profits are locked in each year. If an investor bought shares or bonds directly, or within a unit trust or investment trust, the value of the investments could fall just as they are needed because of general declines in the stock market. With-profits schemes avoid this risk by 'smoothing' the returns.
Unit-linked	• Unit-linked policies are ones where the return will be directly related to the investment performance of the funds contained within the policy. • These may be units in the insurance company's fund or externally managed investment funds.

With unit-linked policies, the amount invested is used to buy units in a fund run by the life company, or in external funds run by fund management groups. The value of the policy is measured in terms of the total number of units allocated to it, and the value of these units depends on the performance of the underlying investments.

The value of the bond generally fluctuates in line with the underlying investments. Generally, life companies offer a range of unit-linked options, with different risk profiles. These may include government or other bond funds, equity funds, international equity funds and other variants. In many cases the policy has no minimum maturity value; instead, its value is linked directly to the underlying funds.

With-profits endowments also offer a benefit payable at some future maturity date, or on the earlier death of the policyholder, or on encashment by the policyholder. The policyholder pays single or regular premiums to the life company, which invests them in the markets with the aim of generating sufficient capital to pay the death or maturity benefits. To achieve a return, the life office invests the premiums received from its many with-profits policyholders in the mix of investments it thinks is most appropriate. These include equities, debt securities, property and cash: in some cases, it can also include other assets, such as holdings in hedge funds, foreign currencies and other alternative investments. The portfolio is generally constructed so as to avoid too high a degree of risk.

The policyholder receives a basic sum assured, plus a share in any investment profits made by the life company. These profits are shared by way of bonuses:

- reversionary bonuses, which are added each year and which, once paid, cannot be withdrawn, and
- terminal bonuses which are awarded on maturity or earlier death.

The return on a with-profits bond is 'smoothed' by the life company; that is, in years when the underlying portfolio performs well, the company will hold back some of the gains, and will allocate them to policyholders to boost their returns in years when performance is poor. The concept behind this is that policyholders should experience lower volatility than with a regular investment.

7. Pension Arrangements

Learning Objective

3.6.1 Be able to analyse the main types, purpose, structure and operation, risks, costs and investment characteristics of pension arrangements: defined benefit; defined contribution; personal pensions

3.6.2 Be able to analyse the key features of pension arrangements: contributions – sources, level and limits investment selection and performance; tax treatment of contributions, investments and benefits; how benefits are provided; annual and lifetime allowances; initial and ongoing costs

It might seem odd to include financial products such as insurance policies and pensions in a chapter addressing investments. A professional investment manager would not generally use insurance and pensions products in a client's portfolio. However, certain insurance and pensions products are regarded as investments, for technical and regulatory purposes. Further, if we are to consider investment planning for a private individual, we should certainly take account of both investment bonds and pension products, given their underlying investments.

7.1 Importance of Retirement Planning

Studies indicate that people perceive the word 'pension' to be uninteresting, that a significant lack of trust persists because of the negative view of the financial sector, and that it is hard for people to prioritise saving for tomorrow versus spending today.

It is a fact, however, that people are living longer due to medical advances and general improvements in healthcare, and that average life expectancy has increased significantly over the last few decades. A consequence, however, is the necessity of saving sufficiently to fund the lifestyle that people would like to have. Being able to enjoy rather than endure retirement requires individuals to plan and take action to achieve that objective. The latter point can be seen in statistic that show that, worldwide, state pension benefits account for only about 40% of net average earnings.

Around the world people are living longer and birth rates are declining, leading to ageing populations with fewer workers and more people in retirement. This can have major long-term effects on investment markets and opportunities.

As many countries face significant ageing of their **population** and their workforce, this creates both opportunities and challenges.

- Many countries have to increase the age at which a state pension is paid because of the rising costs of funding. This increases the opportunities for private sector provision of pension schemes.
- For some segments of the population, this increased longevity is leading to higher average wealth holdings as working households increase their savings in order to fund a longer retirement. This offers the opportunity for greater wealth management services.

Ageing Western populations are having a significant impact on equity markets as 'baby-boomers' move through the peak years of their lives for investment. This effect is particularly visible in the US, where investors now hold more in mutual funds than on deposit. The ageing of the West should also boost particular sectors catering for a more elderly population – like financial services, tourism and leisure, and healthcare products and services.

Many people may be in retirement for 30 years or more, so planning for a comfortable retirement must be a key financial objective. Increasing flexibility and access to retirement savings adds further challenges to balancing client needs and planning a sustainable retirement. Planning a retirement in which a person can have financial security requires a structured approach. Even when retirement is reached, the need for ongoing financial planning remains and is an ongoing activity well into later years.

7.2 Types of Pensions

There are many different ways of categorising the various types of pension schemes, but for simplicity, it is possible to break them down into three types:

- state pensions
- defined benefit schemes, and
- defined contribution schemes.

There are then a number of different types of defined contribution schemes, from occupational ones to personal pensions.

7.2.1 State Pensions

State pensions are obviously the ones provided by governments to their citizens. These will clearly vary from country to country but one of the main features is that state pensions are based on a pay-as-you-go basis, where contributions from working-age individuals are used to finance the pensions payable to those eligible for the state pension. It is essentially an unfunded scheme.

7.2.2 Defined Benefit (DB) Schemes

An occupational pension scheme that takes the form of a defined benefit (DB) scheme is where the pension received is related to the number of years of service and the individual's salary. They are more commonly known as 'final-salary schemes' (though the definition of 'final salary' is changing in some cases).

A DB scheme essentially promises a given level of income in retirement, usually expressed as a proportion of earnings as defined by the pension fund rules. Contributions to the fund will normally be

made by both the employer and the employee, although who contributes what will vary from scheme to scheme.

DB schemes vary from company to company, and the final pension payable is usually expressed as a fraction of the individual's final salary. This is known as an 'accrual rate'; a scheme might provide, for example, one-sixtieth of the employee's final salary for each year of service. Over a 40-year working career, the employee could build up a pension of two-thirds of their final salary. The accrual rate will vary, and some also use an average of the salary received over a period of years leading up to retirement.

DB schemes will specify the date at which the benefits are expected to be paid, which is known as the 'normal retirement date' or 'normal pension date'. At retirement, DB schemes may allow part of the member's total benefit to be taken in the form of a lump sum. The remainder of the fund is used to provide retirement income in the form of a pension. The pension may be payable by the pension fund itself from its internal cash flow, or some schemes provide pension benefits by providing a lump sum that is used to purchase an annuity from an insurance company.

For the employee, a DB scheme has the advantage of allowing retirement plans to be made in the knowledge of what income will be received. Its potential disadvantages are that, in the final years of working, the employee may not be earning as much as when they were at their peak earning power, and what constitutes the final salary on which the pension will be calculated may be different from total earnings. In assessing such a scheme, consideration needs to be given to the funding position of the scheme and whether it can afford to pay out the promised benefits.

7.2.3 Defined Contribution (DC) Schemes

Defined contribution (DC) schemes are the other main type of pension scheme – they are also known as 'money purchase schemes'. Most company pension schemes are now defined contribution in nature. The pension provided is dependent on the contributions made, the investment performance achieved and, ultimately, the size of the accumulated fund when benefits are to be taken. In these types of scheme, the risk lies with the employee rather than the employer, since the employer has not guaranteed a particular level of pension rights.

A company may operate its own pension scheme if it is large enough, but smaller companies will often use a group personal pension arrangement. These are provided by a pension provider, such as an insurance company, and although they are employer-sponsored schemes, the legal contract is between the individual and the pension provider.

Contributions to a defined contribution scheme will be invested either by the pension scheme itself or in funds managed by an insurance company. The eventual value of the pension fund will, therefore, depend upon the investment performance achieved by the underlying investments. Most insurance-based pension arrangements allow the member to switch between the insurance company's funds, so an individual can change to more cautious funds as retirement approaches.

At retirement, it may be possible for a cash sum to be taken and the balance used to provide a retirement income. The disadvantage of such schemes is that the actual income that the employee will receive on retirement will not be known until retirement, and this makes effective planning significantly more difficult.

7.2.4 Personal Pensions

As the name suggests, personal pensions are pension arrangements made by an individual in order to provide retirement benefits.

Personal pensions are individual contracts with a pension provider and can be arranged on an individual or group basis, for example, by an employer. The provider will usually be a life company or specialist pensions provider.

Personal pensions are a form of money purchase scheme and so the retirement benefits will depend upon the contributions made, the investment performance of the fund and annuity rates at the time of retirement. At retirement, a lump sum can often be taken and the balance used to provide retirement income.

Personal pensions tend to have more flexibility than many occupational schemes which choose not to take on the complexities that the full range of investment and benefit options would entail. As a result, charges may be higher due to the provider running the scheme for one person rather than a group of employees.

7.3 Pension Fund Investment

Investing for retirement or, indeed, investing the funds that may be available at retirement is a variation of the investment planning that a wealth manager may normally undertake for a client. While the amount saved will be held within the pension fund wrapper, the portfolio of investments will be the same range of cash and investment products that we have considered before.

Pension schemes tend to receive favourable tax treatment from governments, aimed at encouraging individuals to make their own retirement provision and, therefore, relieving the state of the need to fund it beyond the basic state pension. The tax benefits tend to be twofold:

- tax relief on contributions made into the scheme, and
- either exemption or additional allowances against tax on gains and dividend income.

For this reason, pension arrangements will often provide one of the best investment vehicles for meeting clients' retirement needs.

The adviser will clearly need to determine the detail of any existing scheme that a client is already part of or is able to join. In doing so, they will also need to establish the availability of benefits from the arrangements. They will need to establish at what age the client can retire and take benefits and whether these will be in the form of a tax-free lump sum, with the remainder as an ongoing income, or some other arrangement. For the ongoing income, it should also be established whether there will be a continuing pension for the surviving spouse following the death of the investor.

Pension arrangements may represent a major part of the client's assets that will be used in retirement, but they are not the only solution and a wide range of other assets will need to be taken into consideration. The rest of the client's assets will also contribute towards the funds that are needed to finance retirement.

This will include the following:

- Their home which, although still required in retirement, offers the opportunity for them to sell and purchase something less expensive and, therefore, free up capital for investment.
- They may own property which is rented out and which can either provide a lump sum for investment or a continuing income source.
- They may have their own business and there may be the opportunity to sell this as a going concern to realise assets, or for the business to be continued by others and for them still to receive income through a reduced involvement, consultancy arrangement or dividends.
- There will also be the whole range of other assets that the client builds up during their life, including cash deposits, investment funds and other investment products.

In almost all cases, a mix of asset types is likely to be necessary to meet the client's retirement planning objectives, along with appropriate protection products.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. Fair value pricing is associated with what fund activity?
   Answer reference: Section 1.1.2

2. What is the difference between an open-end fund and a closed-end fund?
   Answer reference: 1.1.4

3. How might the pooling of investments aid a retail investor?
   Answer reference: Section 1.2

4. What factors should you assess when considering the counterparty risk of a synthetically replicated ETF?
   Answer reference: Section 3.1.5

5. How do ETNs differ from ETFs?
   Answer reference: Section 3.2

6. What is structural leverage and how does it impact investor returns?
   Answer reference: Sections 4.2.2

7. An actively managed investment fund is benchmarked against the S&P 500 Index and has an R-squared ratio of 75%. What would this imply?
   Answer reference: Section 5.3.3

8. What fund charges do the expense ratio, TER and OCF encompass and what is their effect?
   Answer reference: Section 5.4.1

9. Why is it important to evaluate a fund's structure and in what cases may detailed evaluation be required?
   Answer reference: Section 5.5.2

10. Why is it important to evaluate how an open-end fund offers daily redemptions and the risks it presents?
    Answer reference: Section 5.5.3

Chapter Four

Investment Risk and Return

1. **Models of Investment Theory** 241
2. **Time Value of Money** 267
3. **Investment Risk and Return** 278

This syllabus area will provide approximately 10 of the 80 examination questions

In this chapter, we look at the models of investment theory that drive the composition of investor portfolios and the various ways in which both risk and return can be measured and assessed.

1. Models of Investment Theory

Modern portfolio theory (MPT) is with a mathematical framework, detailing the way in which portfolios can be constructed to maximise returns and minimise risks. According to this, we should not simply consider the potential risks and returns of an individual investment. It is equally important to consider how each investment changes in price relative to how every other investment in the portfolio changes in price.

Essential to portfolio theory is the assumption that investors are risk averse and would choose a less risky investment if they were offered the choice of two that offered the same return. The higher risk investment would only be chosen if it offered a higher return.

The principles of MPT are widely used to measure not only risk and return, but also other aspects of the portfolio management process. However, MPT and the models that have been developed based on its assumptions came under severe criticism following the financial crisis of 2007–09. The crisis showed that security returns do not follow a normal distribution and that **correlations** between asset classes are not stable in extreme conditions leading to correlation compression. The models should not necessarily be rejected, but it is clear that they do not fully explain the behaviour of investors and markets. This leads to continuing interest in behavioural finance.

1.1 Modern Portfolio Theory (MPT)

Learning Objective

4.1.2 Be able to assess the main principles of Modern Portfolio Theory (MPT), the Capital Asset Pricing Model (CAPM), its application and limitations: risk free rate of return; risk premium; cost of capital and return on capital; excess returns; correlation measures; risk and diversification; efficient frontier, portfolio optimisation and leverage; assumptions and shortcomings

MPT originated with an article entitled 'Portfolio Selection' by Harry Markowitz which appeared in 1952 in the Journal of Finance. The theory lays out a method of reducing investor risk through diversification using quantitative methods.

MPT states that it is reasonable for investors to construct a portfolio that provides investors with maximum returns by employing the optimal quantity of risk. A strong theme in MPT is that the diversification of securities and asset classes is adhered to. For example, a portfolio solely dedicated to stocks holds inherent systematic or market risks like inflationary pressures or interest rates, moreover, unsystematic risks are also prevalent such as weak sales. While systematic risk will always prevail, effective diversification of a portfolio helps to reduce unsystematic risk.

Markowitz introduced mathematical statistics to the qualitative practice of portfolio construction. In the early 1950s, most investors held undiversified portfolios and participated in the stock market through

direct holdings rather than diversifying risk by using investment funds. This approach predominated in the US until the 1980s when the use of mutual and exchange traded funds started to become more common.

The principles that were proposed in this highly influential paper now seem to be unremarkable, but at the time, the emphasis on diversification and the mathematical model that enabled a portfolio manager to assemble positions, which were to provide the best level of expected return for a given risk tolerance, helped to usher in a period of great innovation in investment theory.

Prior to MPT, the received wisdom on the manner of combining securities in a portfolio was to screen securities that offered the most attractive opportunities for gain with the least risk and then add these together in a portfolio. Bringing individual securities together in such a fashion would often lead to exposing the portfolio to too many securities from the same sector, where the correlations between the returns among the securities selected would be imprudently high. In other words, the portfolio would lack the benefits of diversification.

Markowitz's major contribution was to outline a framework for deriving the benefits of diversification for a portfolio manager. This was underpinned with concepts of risk, return, variance and covariance. They focused attention on the manner in which the overall volatility of a portfolio (which is considered to be the suitable **proxy** for its degree of risk) is calculated from the covariance matrix of the returns of its constituents.

MPT provided the asset manager with a systematic procedure for evaluating different combinations of securities and selecting those combinations which provided the optimal reward for a given level of risk. The optimal allocations will be a trade-off between the risks the client is willing to tolerate and the anticipated returns.

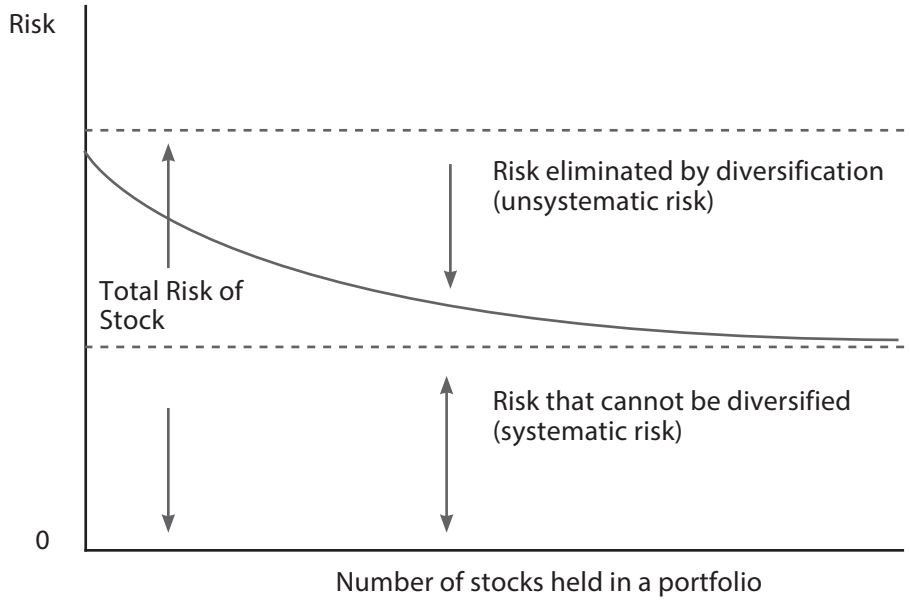
MPT states that by combining securities into a diversified portfolio, the overall risk will be less than the risk inherent in holding any one individual stock and so reduce the combined variability of their future returns. So, a well diversified portfolio will reduce the risk that its actual returns will be lower than expected.

1.1.1 Systematic and Unsystematic Risk

MPT states the risk for individual stocks consists of systematic and unsystematic risk.

- **Systematic risk** – this refers to market risks that cannot be diversified away. It is the risk that the overall market poses in general. Economic conditions and other market factors can change which may affect returns over a given period of time, and alternatively, these risks could pose immediate impacts. For example, if an investor bought at the top of the market or sold at the bottom.
- **Unsystematic risk** – this is the risk associated with a specific stock and can be diversified away by increasing the number of stocks in a portfolio. It is also referred to as 'specific risk' or 'non-systematic risk' and represents the component of a stock's return that is not correlated with broader market trends. This kind of risk strategy holds two assumptions; firstly, the total risk of each security in the portfolio is assumed to be identical to another; and secondly, the correlations between securities total to zero.

Modern Portfolio Theory



Market risks can be proxied using the volatility of an asset. Quantitatively, this can be expressed through the use of the beta of a security or portfolio. This measures volatility relative to the market as a whole:

- **ß=1** indicates that the security/portfolio's risk is the same as the overall market.
- **ß<1** suggests that the security/portfolio would move in the same direction of the market but by a smaller amount whereas ß>1 would move by a greater amount.
- When **ß=0,** the investment's returns are uncorrelated with those of the market. This is commonly applied in the capital asset pricing model (CAPM) which will be explored further in section 1.2.

Examples of systematic risk include:

- **Inflation** can erode returns and/or purchasing power, even if the investor has factored inflation into their investment analysis the actual inflation rate may differ. Additionally, measures such as quantitative easing (QE) which is beyond the control of an investor or the market can pose inflationary pressures; financial commentators believe that the imposition of the central bank's QE policy will result in significant inflation over the medium term.
- **Interest rate risk** which can affect prices as the price of fixed-interest instruments and other bonds is commonly determined by current interest rates and interest rate expectations. An unexpected change to interest rates can cause a re-evaluation of market rates, inflation expectation changes or changes in the probability of default for lower rated corporate bonds. The complete length of maturities can be impacted by interest rate risk and yield curves can adjust accordingly to reflect adjusting aggregate market views. For example, in the wake of the UK's Brexit referendum, the **yield curve** became highly flat with long-term maturity yields nearly equal to those of the short term. Furthermore, interest rates on two-year fixed mortgages and five-year fixed mortgages became very similar, which is an unusual occurrence.

- **Default risk** is associated with investments into the securities of a company that may become insolvent. This can occur for a variety of factors; financial miscalculations, high levels of borrowing, poor management and operating in a harsh economic climate. This kind of risk can be mitigated in the bond market as fixed-income investors get alerts of potential credit defaults through agencies such as Standard & Poor's, Fitch and Moodys. Portfolios such as trusts, charities or institutional clients carry with them specific 'sell' triggers which authorise the automatic sale of a bond to be sold from the portfolio if its credit rating is downgraded below investment grade (BBB).
- **Liquidity risk** occurs during stressful periods where liquidity problems can reduce the ability for securities to be sold. Extreme scenarios may see prices quoted for securities widen significantly making it hard for significant volumes of particular shares to be bought or sold without moving the price. In times of market turmoil, it is common for the market to be inundated with sellers but have few buyers and, as a result, certain securities may be near impossible to sell regardless of how low the price falls.

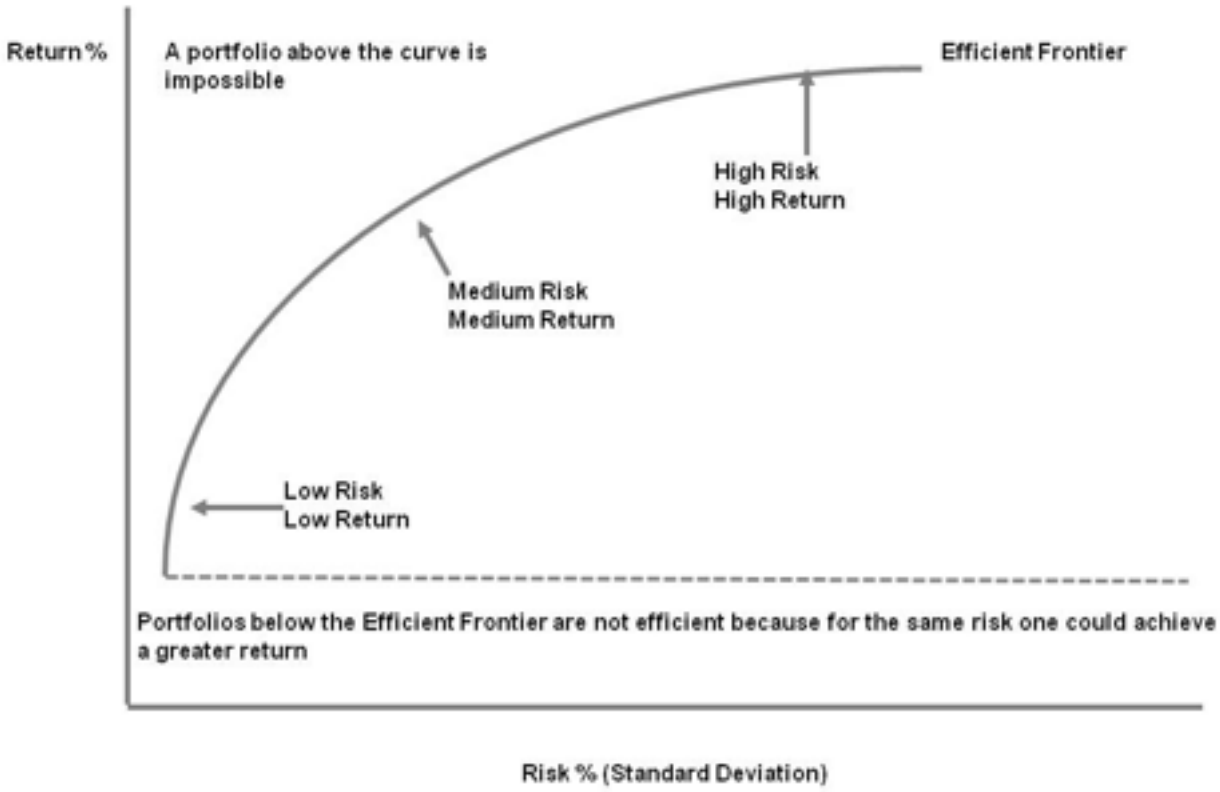
Non-systematic risks can also be known as specific risks or unique risks. Non-systematic risks are those which relate to a particular business, investment or share. They can usually be reduced through diversification. Some examples of non-systematic risks are:

- **Business risks** – these are risks which are associated with the nature of a company's profits and dividends – they include factors such as product design, labour relations, the costs of raw materials, and the strength of the company's balance sheet. We could think of these things as internal business risks.
- **Industry risks** – these include tariffs and barriers to trade, industry-wide strikes, changes in consumer taste and seasonal factors.
- **Management risks** – these are risks that relate to the calibre of management of a company; are the management good enough to plan and manage the company effectively? Or are they out of their depth and unable to cope with challenges?
- **Financial risk** – any risk associated with the nature of the financing options selected by a firm. For example, a company's assets may be financed through a mixture of debt and equity. Thus, it is directly related to its capital structure. A firm which is 100% equity financed has no financial risk. Incorporation of debt financing in the capital structure brings with it financial obligations to repay the coupons and principal on the debt at various stages.

1.1.2 Efficient Frontier

The process advocated by Markowitz enabled a fund manager to calculate the correlated portfolio volatility and the expected returns for numerous combination scenarios. From the range of possible portfolio combinations, there are a series of combinations that will optimally balance the risk and reward. The optimal combinations that maximise the reward for the different possible levels of risk lie on what Markowitz termed the 'efficient frontier'.

Efficient Frontier

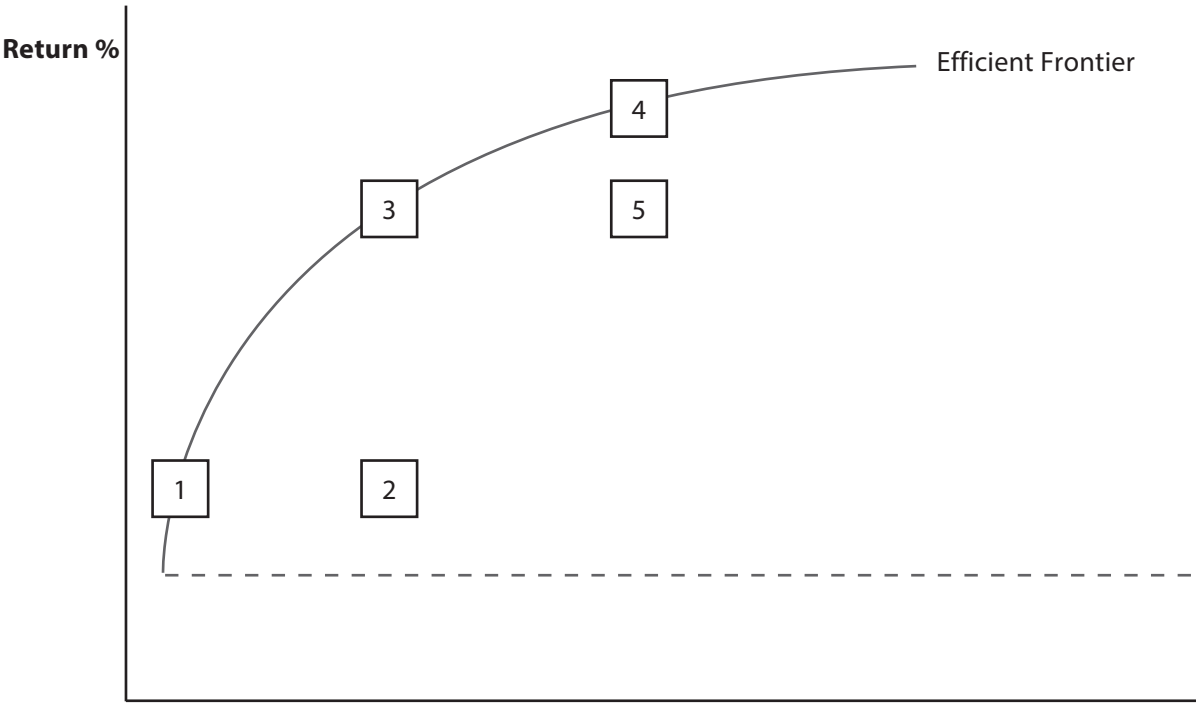


The efficient frontier shows that it is possible for different portfolios to have different levels of risk and return. Each investor decides how much risk they can tolerate and diversifies their portfolio accordingly. The optimal risk portfolio is usually determined to be somewhere in the middle of the curve because as you go up the curve, you take on proportionately higher risk for lower incremental returns. Equally, positioning a portfolio at the low end of the curve is pointless as you can achieve a similar return by investing in risk-free assets.

An efficient frontier is a graph that plots the expected return on a portfolio of investments on the y-axis and its risk as measured by its standard deviation on the x-axis. It demonstrates the risk-and-return trade off of a portfolio and helps us visualise the efficient portfolios, the global minimum variance portfolio and inefficient portfolios. The point on the efficient frontier with the lowest standard deviation is called the minimum variance portfolio.

To further explain this concept, the following diagram shows a number of portfolios plotted against an efficient frontier and the conclusions that can be drawn.

Efficient Frontier



What we can say about these different portfolios is:

- Portfolio 1 is a better choice than Portfolio 2 as it offers the same expected return, but with a lower level of risk.
- Portfolio 3 is a better choice than Portfolio 2 as it offers a higher expected return for the same level of risk.
- Portfolio 3 is a better choice than Portfolio 5 as it offers the same level of expected return, but with a lower level of risk.
- Portfolio 4 is a better choice than Portfolio 5 as it offers a higher expected return for the same level of risk.
- It is not possible to say whether Portfolio 1, 3 or 4 is the better choice as this will depend on the risk profile of the investor.

So, from this we can see that the efficient frontier represents the set of portfolios that has the maximum rate of returns for every given level of risk, with each portfolio lying on the efficient frontier offering the highest expected return relative to all other portfolios of comparable risk. A rational investor will only ever hold a portfolio that lies somewhere on the efficient frontier, however, it is not possible to say which portfolio an individual investor would prefer, as this is determined by the maximum level of risk that the investor is prepared to take.

On the same graph, we can plot an investor's utility function given their level of risk aversion. The point of intersection of the efficient frontier and the utility curve represent the portfolio allocation that is best suited given the risk-return trade-off and risk aversion of the investor. Utility theory is discussed next.

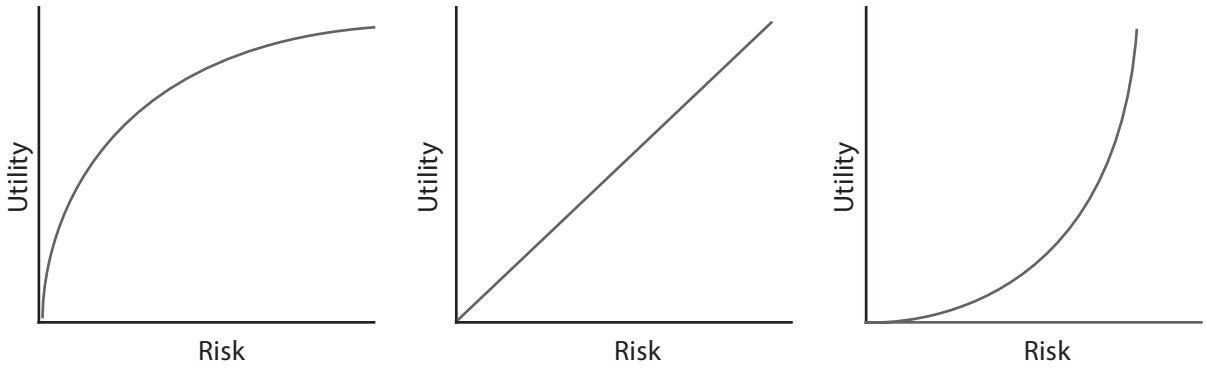
1.1.3 Utility Theory

Utility is the measure of how much satisfaction is derived from the consumption of a good or service. From a financial/investor's point of view, it illustrates the level of benefit which investors gain from a portfolio's performance. It is reasonable to assume that an investor wishes to seek a high level of utility from a portfolio through high returns, however, this is not without risk. There is a trade-off between risk and return in investments, following a linear relationship. Understanding an investor's utility towards money helps investors and wealth managers make more informed decisions about how certain investments are more suited to different risk attitudes.

Economists assign quantitative values to the products/investments that consumers choose to use; these values are known as utils and marginal utility refers to how much incremental utility an individual derives from obtaining one additional unit of a good or service. A recent study in the US found that people earning $95,000 pa derive just as much utility from their salary as people earning $200,000 pa. This is an example of decreasing marginal utility, as with any salary above $95,000, individuals begin to value other things more than money, ie, time.

A utility function can be plotted using a curve. Investors can be typically assigned to three types of utility curves in response to their risk preference; risk averse, neutral or seeker.

Utility Curves



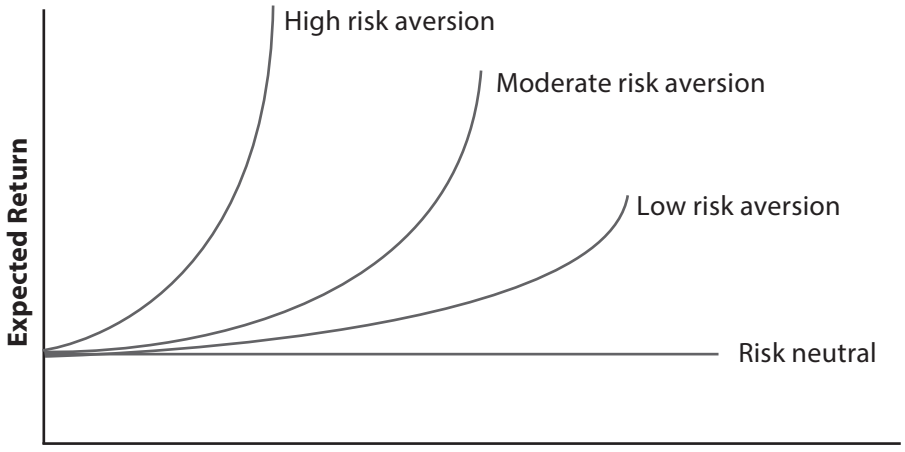
Risk-Averse Curve **Risk-Neutral Curve** **Risk-Seeking Curve**

- **Risk-averse utility function** – investors with this utility function tend to have a smaller desire to take on further risk.
- **Risk-neutral utility function** – investors who are risk neutral have a linear relationship between risk and utility meaning increasing their risk results in greater utility – this is an uncommon behaviour trait for investors.
- **Risk-seeking utility function** – an investor with this utility function experiences an increase in marginal utility when risk increases.

Taking this further, a highly risk-averse investor may choose to invest only in the risk-free asset at the left hand side of the curve while a less risk-averse investor may have a small portion of their wealth invested in the risk-free asset and a large portion invested in the riskier assets. Investors with a high-risk tolerance may, in fact, choose to borrow from the risk-free asset to invest in the risky portfolio in order to invest more than 100% of their assets creating a leveraged portfolio.

An indifference curve takes this concept further and plots the combination of risk and return that an investor would accept for a given level of utility. The following graph shows indifference curves for a series of investors with different attitudes to risk using the same axis as we saw in the efficient frontier diagram above.

Indifference Curves



For risk-averse investors, indifference curves run 'northeast' as an investor must be compensated with higher returns for increasing risk. An investor that is more risk-seeking has an indifference curve that is much flatter as their demand for increased returns as risk increases is much less acute. An investor will find any portfolio that is lying on an indifference curve that is further northwest to be more desirable than any portfolio lying on an indifference curve that is not as far northwest.

As mentioned in the last section, in theory, we can overlay an investor's utility function given their level of risk aversion onto the efficient frontier. The point of intersection of the efficient frontier and the utility curve represent the portfolio allocation that is best suited given the risk-return trade-off and risk aversion of the investor.

1.1.4 Summary

So, a fundamental part of MPT is that constructing a portfolio with multiple securities and guided by correlations between those securities, will lead to greater diversification, which will in turn reduce the risk of holding that portfolio. The efficient frontier does have limitations, however:

- It assumes that standard deviation is the correct measure of risk and that assets have normally distributed returns.
- Inputs for risk and correlation between assets often rely on historical data, which may not be stable. Correlations usually rise in a financial crisis, meaning that less risk will be diversified away than indicated by the model.
- The model does not include transaction costs and investors may not be willing to change their portfolios as often as the model might recommend.

- It assumes that the underlying portfolios in each asset class are index funds with the same characteristics as the input data.
- It is difficult to say which portfolio investors would prefer based solely on their attitude to risk, as investors may be concerned about other factors and may have **constraints** on how their portfolio is invested.

Although, since its origins in the early 1950s, this basic portfolio selection model has been developed into more sophisticated models, such as the capital asset pricing model (CAPM) in the mid-1960s and arbitrage pricing theory (APT) in the late 1970s, and it remains the backbone of finance theory and practice.

1.2 Capital Asset Pricing Model (CAPM)

One of the consequences of Markowitz's work on MPT is the realisation that through using quantitative techniques in portfolio construction, diversification reduces risk.

A diversified investor will have eliminated, through diversification, the unsystematic risk inherent in the individual securities in their portfolio and face just systematic risk. For this diversified investor, a return should be sought which is commensurate with the level of systematic risk only.

The CAPM says that the expected return on a security or portfolio equals the rate on a risk-free security plus a risk premium, and that if the expected return does not meet or beat this required return, then the investment should not be undertaken.

The CAPM is used to predict the expected or required returns to a security by using its systematic risks, in other words, its beta. Systematic risk is assessed by measuring beta which is the sensitivity of a stock's returns to the return on a market portfolio and so provides a measure of a stock's risk relative to the market as a whole.

Beta is calculated by constructing a scattergram of returns achieved by the stock against the market as a whole. By using regression analysis, a line of best fit is then drawn and the gradient of the line represents the stock's beta:

- If it has a beta of greater than 1, then the stock is more volatile than the market as a whole.
- If the stock's beta is 1, then the stock has the same volatility as the market as a whole.
- If a stock has a beta of 1.5, then it has 50% greater volatility than the market portfolio.
- If it has a beta of less than 1, the stock is less volatile than the market as a whole, so a stock with a beta of 0.7 has 30% less volatility.

We can use a stock's beta in conjunction with rate of return on a risk-free asset and the expected return from the market to calculate the return we should expect from a stock.

Using CAPM to Calculate Expected Return

The CAPM formula is usually expressed as:

$$\text{Return} = r_f + \beta \times (r_m - r_f)$$

Where:

- r_m = the return expected from the market portfolio.
- r_f = the return offered by a risk-free security.
- β = the risk of the investment opportunity relative to that of the market portfolio (systematic risk only).

This can be expressed more simply as:

Required return = Risk Free Rate + Beta x (Market Rate – Risk Free Rate)

That is, the investor can expect to achieve the risk-free return (r_f) plus a proportion of the market risk premium ($r_m - r_f$) based on the levels of relative risk (β) they are willing to face.

We can use the CAPM formula to calculate the return we should expect from a stock. For example, if the current risk-free rate is 5% and the expected return from the market is 10%, what return should we expect from a security that has a beta of 1.5?

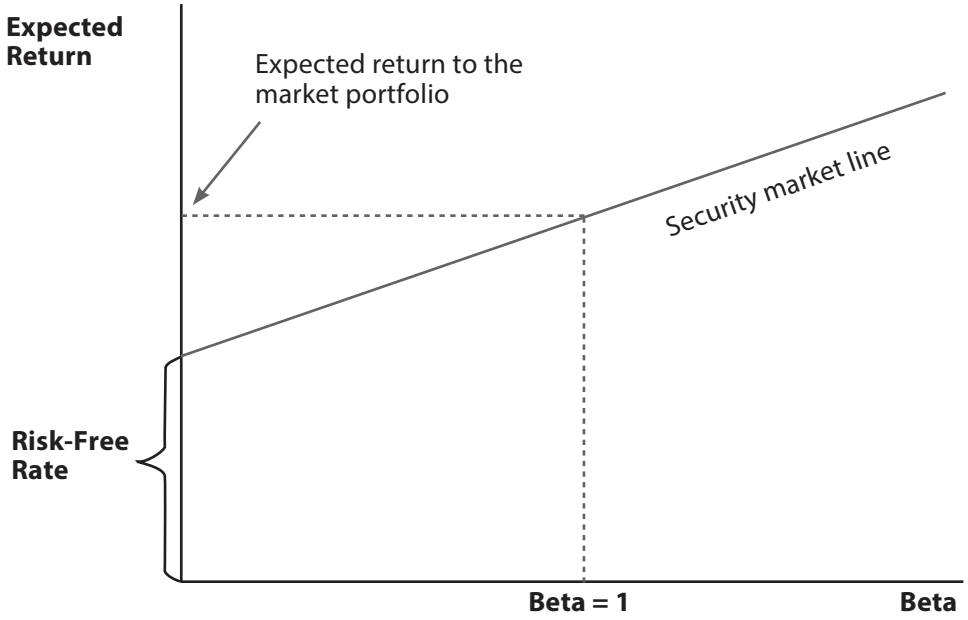
The beta of the individual stock tells us that it carries more risk than the market as a whole and the CAPM formula tells us that we should expect a return of.

Expected return = 5% + (10% – 5%) x 1.5 = 12.5%

CAPM, by providing a precise prediction of the relationship between a security's risk and return, therefore, provides a benchmark rate of return for evaluating investments against their forecasted return.

It also enables what is termed the 'security market line' to be presented graphically. If a graph is plotted depicting the expected return from a security against its beta, then the relationship is revealed as a straight line.

CAPM Security Market Line



The security market line shows that the higher the risk of an asset, the higher the expected return. The market risk premium is the return an investor would expect over and above the risk-free rate (such as the return on a treasury bill or government bond) as a reward for taking on the additional market risk.

The CAPM is a tool which enables portfolios to be constructed once a client's risk tolerance has been determined. Observations include:

- An individual seeking a high return would need to take on high risk in order to have the chance of a higher return.
- To achieve a higher return we would need to construct a portfolio with a high β. A portfolio with a β greater than 1 could be expected to give a return greater than that of the market, but at a correspondingly enhanced level of risk.
- An investor with a long time horizon, who is not overly risk averse, might seek out adventurous investments and be willing to take additional risks in the promise of higher returns.
- A more risk-averse individual, such as someone reaching retirement, is liable to be seeking a more secure and less risky portfolio and would, therefore, prefer a portfolio with a β less than 1.
- As the proportion of risk-free investments is increased in the portfolio and the proportion of riskier assets reduced, the portfolio β reduces towards 0.

The CAPM does, however, have its limitations.

CAPM Assumptions and Limitations	
Assumptions	• Market participants borrow and lend at the same risk-free rate. • Market participants are well-diversified investors and specific risk has been diversified away. • There are no tax or transaction costs to consider. • All investors want to achieve a maximum return for minimum risk. • Market participants have the same expectations about the returns and standard deviations of all assets.
Limitations	Some of CAPM's assumptions appear to be inapplicable in modern **capital markets**, but it also has certain specific limitations: • The required rate of return derived from the model is only valid as long as the inputs (market return, risk free rate and beta) are valid. As a result of changing economic and fiscal circumstances, we can expect that one or more of these factors will change over a year. • The model assumes that the overall portfolio held is diversified and equates to the market as a whole. • To calculate a β factor for an investment we are relying on historical data and the observed co-movements in the returns of different assets and the market in general. Several studies have shown that the results of analysing historical data over many different time periods reveal that beta is, itself, subject to large fluctuations. Therefore, when applying the results of historical analysis and determining a beta value, there is good reason to be sceptical that the future beta of a portfolio will resemble the past beta of a portfolio. • An investment portfolio is said to be positioned on the efficient frontier if it is expected to produce returns greater than other portfolios with different asset mixes of the same or lesser risk. In practice, investments are often not able to locate on the outer edge of this theoretical position and are instead located within, rather than on, the efficient frontier.

1.3 Efficient Markets Hypothesis (EMH)

Learning Objective

4.1.1 Be able to assess the main propositions and limitations of the Efficient Markets Hypothesis (EMH): strong form; semi-strong form; weak form; assumptions and shortcomings

The EMH states that it is impossible to beat the market as prices already incorporate and reflect all relevant information. It is a highly controversial and often disputed theory.

The EMH states that share prices reflect all information and consistent alpha generation is impossible. Theoretically, neither technical nor **fundamental analysis** can produce risk-adjusted excess returns, or alpha, consistently and only inside information can result in outsized risk-adjusted returns. According to

the EMH, stocks always trade at their fair value on stock exchanges, making it impossible for investors to either purchase undervalued stocks or sell stocks for inflated prices. As a result, it should be impossible to outperform the market through well-placed stock selections or timings of purchase; to gain higher returns, investors must purchase riskier investments. In the EMH and in wider financial economics, the term 'alpha' can be used to describe a strategy's ability to beat the market, its more relaxed reference is the 'edge' it poses with investment strategy.

Behind the EMH, lie a number of key assumptions that underpin most finance theory models. Aside from investors being rational and risk averse, they are also assumed to possess a limitless capacity to source and process freely available information accurately. Thus, an efficient capital market is also one where any new information that arrives in the public domain leads to an instantaneous adjustment of the price levels.

Under the EMH, market efficiency can be analysed at three levels, each of which has different implications for how markets work.

Efficient Markets Hypothesis	
Weak Form	• A weak form price efficient market is one in which security prices fully reflect past share price and trading volume data. • As a consequence, successive future share prices should move independently of this past data in a random fashion, thereby nullifying any perceived informational advantage from adopting technical analysis to analyse trends. • Technical trading strategies, therefore, cannot provide consistent excess returns because past price performance cannot predict future price action that will be based on new information.
Semi-strong Form	• A semi-strong efficient market is one in which share prices reflect all publicly available information and react instantaneously to the release of new information. • As a consequence, no excess return can be earned by trading on that information and neither fundamental nor technical analysis will be able to reliably produce excess returns. • An example of semi-strong form is when the monthly non-farm payroll report in the US is released each month. Here prices rapidly adjust as the market takes in new information.
Strong Form	• A strong form efficient market is one in which share prices reflect all available information and no one can earn excess returns. • Both public and private information is available, both historical, new, or current as well as insider information. Even information not publicly available to investors, such as private information known only to a company's CEO is assumed to be always already factored into the company's current stock price. • According to strong form EMH, not even insider knowledge can give investors a predictive edge that will allow investors to consistently generate returns which outperform market averages. • Insider dealing laws should make strong form efficiency impossible except where they are universally ignored.

Generally speaking, most established Western equity markets are relatively price efficient. Although testing for strong form efficiency is impossible, as inside information would be required, the most conclusive evidence supporting the semi-strong efficient form of the EMH is that very few active portfolio managers produce excess returns consistently.

However, pricing anomalies and trends do occasionally arise as a result of markets and individual securities under and overshooting their fundamental values. As a consequence, some active managers do outperform their respective benchmarks and often do so in quite a spectacular fashion.

The limitations of the theory can, therefore, be seen to include the following:

- Investors do not always invest in a rational fashion, thereby providing others with pricing anomalies to exploit.
- Investors frequently use past share price data, especially recent highs and lows and the price they may have paid for a share, as anchors against which to judge the attractiveness of a particular share price, which in turn influences their decision-making.
- The inability for all market participants to absorb and interpret information correctly, given varying abilities and the way in which the information is presented.
- Stock market bubbles develop and eventually burst which is a phenomenon which stands at odds with the EMH.
- Investors frequently deal in securities for reasons completely unrelated to investment considerations, such as to raise cash or follow a trend.

While some scholars support the EMH through evidence, there is a contrarian school of thought against the EMH's validity. The EMH does not support the market being 'beaten' over sustained periods of time; however, investors such as Warren Buffett, CEO of Berkshire Hathaway, have long outperformed the market. Additionally, a caveat of the EMH is that stock prices should always reflect their 'fair' values, however, during the 1987 stock market crash the Dow Jones Industrial Average (DJIA) fell by over 20% in a single day.

1.4 Arbitrage Pricing Theory (APT)

Learning Objective

4.1.3 Be able to assess the main principles behind Arbitrage Pricing Theory (APT), its application and limitations: factor structure and analysis; macroeconomic and market factors; arbitrage theory and mechanics; relationship with CAPM; assumptions and shortcoming

APT was developed in the late 1970s in response to the CAPM's main limitation that a single market beta is assumed to capture all factors that determine a security's risk and expected return.

It requires very little rational investor behaviour and implies that when a security drifts away from its rational price, perceptive investors will start to buy (or sell) it, thus driving prices back to their rational level. So wise investors may ensure that prices return to rationality, but at the same time prices would never deviate in the first place if it were not for the actions of less wise investors. In this sense, APT anticipates a significant dispersion in investor skill. Of course, arbitrageurs cannot act to profit from irrational behaviours unless price differentials are sufficiently large compared with transaction costs.

Anomalies in this theory are defined as empirical results and market behaviours to events that, unless adequately explained by conventional finance theory, will be construed to run counter to market efficiency.

APT, rather than relying on a single beta, adopts a more complex multi-factor approach by:

- seeking to capture exactly what factors determine security price movements by conducting regression analysis
- applying a separate risk premium to each identified factor, and
- applying a separate beta to each of these risk premiums depending on a security's sensitivity to each of these factors.

Examples of factors that are employed by advocates of the APT approach include both industry-related and more general macroeconomic variables, such as anticipated changes in inflation or industrial production, and the yield spread between investment grade and non-investment grade bonds.

The underlying assumptions of APT include the following:

- Securities markets are price efficient.
- Investors seek to maximise their wealth, though do not necessarily select portfolios on the basis of mean variance analysis.
- Investors can sell securities short. Short selling is selling securities you do not own with the intention of buying them back at a lower price in order to settle and profit from the transaction.
- Identified factors are uncorrelated with each other.

APT is attractive in that it:

- explains security performance more accurately than the CAPM by using more than one beta factor
- uses fewer assumptions than the CAPM, and
- enables portfolios to be constructed that either eliminate or gear their exposure to a particular factor.

However, APT's shortcomings include a reliance on:

- identified factors being uncorrelated with each other, and
- stable relationships being established between security returns and these identified factors.

1.5 Multi-Factor Models

Learning Objective

4.1.5 Be able to assess the types and uses of multi-factor models, their assumptions and limitations: equity; fixed income

The CAPM expresses a simple relationship between risk and return. It indicates the expected return on a security as the return on a risk-free asset, plus a risk premium. Because of this, the model is often referred to as a single-factor model – it is concerned with only one factor, the security's sensitivity to the market, as measured by its beta.

The relationship between risk and return, however, can be far too complex to describe by the relationship with a single market index, as other factors may also determine the return on a security. Different securities have different sensitivities to different types of market-wide shocks: inflation, business cycles, interest rates, and so on. Multi-factor models allow for different sensitivities to different factors and the identification of each factor's contribution to the security's return.

As we saw above, APT rather than relying on a single beta, adopts a more complex multi-factor approach. Another model, the Fama and French model, expanded the CAPM by adding factors for company size and value in addition to the market risk factor of the CAPM. Fama and French identified two types of securities that tended to do better than the market as a whole. They found that:

- small cap stocks tended to outperform large cap stocks, and
- value stocks (those with a high book value to price ratio) tended to outperform growth stocks.

The securities favoured by the Fama and French model tend to be more volatile than the stock market as a whole, and the higher reward should be considered as the compensation for taking on higher risk.

The Carhart Four-Factor Model extended the Fama-French three factor model in 1997 by including a fourth risk factor. This additional risk factor included a serial dependence characteristic to the security return generating process. He noted that there was a tendency for persistence in firms with positive (negative) past returns to generate positive (negative) returns for a few periods forward. This new risk factor was called the price momentum factor. It was estimated by taking the average return of stocks with the best performance over the previous year minus the average return of stocks in the same period with the worst returns. This momentum factor was given the label 'MOM'.

Types of Multi-Factor Models

Multifactor models are broadly categorised according to the type of factor used:	
Macroeconomic factor models	• The factors are macroeconomic variables that significantly explain asset class returns through affecting either the expected future cash flows of companies or the interest rate used to discount these cash flows back to the present and are meant to be uncorrelated.
Fundamental factor models	• The factors are attributes of companies that are important in explaining cross-sectional differences in stock prices such as book-value-to-price ratio, market capitalisation, price-to-earnings ratio, and financial leverage.
Statistical factor models	• Statistical methods are applied to a set of historical returns to determine portfolios that explain historical returns. In factor analysis models, the factors are the portfolios that best explain historical return covariances. In principal-components models, the factors are portfolios that best explain the historical return variances.

Multi-factor models are attractive in that they explain security performance more accurately than the CAPM by using more than one beta factor, use fewer assumptions, and enable portfolios to be constructed that either eliminate or gear their exposure to a particular factor. However, their shortcomings include a reliance on the identified factors being uncorrelated with each other and stable relationships being established between security returns and these identified factors.

They are, however, able to make a more detailed prediction of risk and return and improve our understanding of security returns. Although there are differences between the different multi-factor models, they all share two basic ideas:

- Investors require extra return for taking risk.
- They appear to be predominantly concerned with the risk that cannot be eliminated by diversification.

1.6 Behavioural Finance

Learning Objective

4.1.4 Be able to assess the principles of behavioural finance: loss aversion; price reaction and price trends; barriers and biases – practical and psychological relationship with EMH; assumptions and shortcomings; cultural and gender differences

Traditional finance theory assumes that people make rational investment decisions as they choose between different asset classes in the light of prospective risk and return, and think rationally about their overall objectives.

In practice, however, emotion and psychology influence our decisions causing us to act in unpredictable or irrational ways. Behavioural finance looks to try to combine what psychologists call cognitive behaviour with conventional financial theory to better understand how we make decisions.

An understanding of the concepts of behavioural finance are important for wealth managers as they can help us understand our client's needs better and design and deliver services that take into account how we act in practice.

For the wealth manager, financial theory and behavioural finance are areas that are important to be understood. Modern portfolio theories are a key skill to deploy in portfolio construction, while behavioural finance enables us to better understand clients and how they make decisions.

1.6.1 Background to Behavioural Finance

Behavioural finance is a relatively new area of financial economics and is a sub-field of behavioural economics which attempts to explain what causes some of the anomalies that have been observed and reported in financial literature. Behavioural finance involves the integration of classical economics and finance coupled with psychology and the decision-making sciences. It argues that many facts about asset prices, investor behaviour and managerial behaviour are best understood in models where at least some elements are irrational, being subject to what psychologists describe as cognitive illusions.

Historically, economics was a separate area of academic study which had its origins in the study of philosophy and psychology. Adam Smith, widely considered the founder of economics, was a Professor of Logic in 1751 and Moral Philosophy soon after. His seminal text '*The Theory of Moral Sentiments*' addressed issues in moral philosophy, ethics and psychology. Additionally, Jeremy Bentham derived his own philosophical doctrine of utilitarianism which held psychology and utility at its heart. The utility concept later became a central component in the theoretical framework of classical economics.

In the 20th century, economists started to remove themselves from the subject's origins within philosophy and psychology by placing a greater emphasis on mathematics in an attempt to align the discipline with that of the natural sciences. An assumption placed upon the discipline and its 20th century models was that economic activity was a result of a series of interactions between economic agents who acted rationally to achieve certain objectives such as maximising wealth. With neoclassicism developing with the work of economists such as Alfred Marshall and John Maynard Keynes, it began to focus on more objective and empirical issues rather than defining concepts like utility. Greater attention was placed on issues which usually fell under the remit of finance such as costs/profits, however, optimisation theory and **macroeconomics** pertaining to issues such as employment and inflation came in to the fold.

The work of Nobel Laureate, Harry Markowitz, helped place the realm of financial economics within the same broad field of financial behaviour through the MPT. Here, financial behaviour is best understood as an expression of the rationality of investors to a world of changing business conditions, where these rational responses find their expression in the movements of markets. In recent years, behavioural finance has drawn widespread attention; this can be partly attributed to a reaction to the set of assumptions about rationality.

Advocates of behavioural finance assert that the standard finance model of rational behaviour does not explain well how most people undertake financial decision-making.

The traditional models for financial economics assume investors are rational decision-makers. The models widely used in financial economics rely upon the belief that markets are highly efficient and unbiased in their predictions, but these models have not proved wholly reliable in real market circumstances. For instance, these markets which are so-called highly efficient failed to predict the financial crisis of 2008 which led to a variety of market imperfections and failures. Additionally, a highly efficient assumption implies the market does not permit for failures like bubbles; however, this has not been the case in recent history with both the bubbles in the dot-com stocks of the late 1990s and the overuse of property-related financial derivatives during the housing market crash of 2005–08 being a case in point.

Modern financial theories such as the CAPM and EMH assume that, for the most part, people act rationally. As time went on, experts in economics and finance started to find evidence of anomalies and behaviours that could not be explained by the theories available. These anomalies prompted academics to look to cognitive psychology to account for the irrational and illogical behaviours that modern finance had failed to explain.

Behavioural finance does not attempt to reject the rational behaviour of traditional economics as faulty; rather, it suggests that the boundaries within which it applies are more specific than realised. Instead, it highlights the cognitive fallacies and biases in the way we think preclude us from acting in a logical and rational manner.

Although behavioural finance has been gaining support in recent years, it is not without its critics. Whatever the merits or otherwise of the competing arguments, for wealth managers, it provides a source of intelligence on the decision-making process of investors and helps to explain a variety of investment related issues such as:

- seemingly chaotic stock prices
- excessive share price volatility and bubbles in prices
- follow-the-leader or herding behaviour
- selling winning investments too early and selling losing investments too late
- asset prices appearing to over or under react to new market information
- mis-estimation of risk
- asymmetric attitude to risk and loss
- belief in the value of time diversification (that risk diminishes with time)
- mistaking ‘good’ companies for ‘good’ investments
- individual investors holding poorly diversified portfolios, and
- preferences for shares of companies often reported in the news.

1.6.2 Decision-Making

Behavioural finance suggests that very often our decision-making process is not a strictly rational one where all relevant information is collected and objectively evaluated. Rather, we will often take mental shortcuts or use our intuitions and gut feelings in the process.

Heuristics and Bounded Rationality

Heuristics refers to the 'rules of thumb', educated guesses or gut feelings which humans use to make decisions in complex, uncertain environments. Limited time and cognitive capacity mean people have problems inferring relevant facts when making decisions, even when they may have all the relevant information. Behavioural finance refers to this as bounded rationality.

As an example, we will often look for comparable situations to the one which we currently confront and try to find a pattern or similarity in the circumstances to help us understand how best to deal with the current situation. Sometimes, this is expressed as an appeal to common sense, although this notion is far from as clear as one would like it to be.

Research has identified that decision-makers tend to place a larger reliance on heuristics when decisions increase in complexity, when time is short, or emotions run high. It is common for the portion of information decision-makers consider, to be reduced during stressful periods.

In wealth management, bounded rationality could limit the number of propositions offered to clients. Instead a smaller number of well-considered and greatly differentiated opportunities may be presented. By utilising bounded rationality, wealth managers make the decision-making process easier for clients when selecting suitable investments or plans.

Some results of research into decision-making from behavioural finance are detailed in the following table:

Key Concepts	
Use of information	• Individuals may not take into account all relevant information. • This might help explain why investors rely on past performance and fail to take full account of risk and expected return. • Behavioural economists argue that when faced with complexity, risk and/or incomplete information, individuals are naturally bad at computation of information. • Behavioural finance suggests that individuals may not take into account all relevant information and may have problems inferring what the relevant facts are due to limited time and cognitive capacity to weigh up all the relevant benefits and costs of a decision. • When faced with complex information, heuristics plays a large part in the use of information in decision-making. Mental shortcuts such as 'rules of thumb' can replace rational thought processes and lead decision-makers to make inaccurate estimations and thereby suboptimal decisions. • Choice overload is a point made by behavioural economists to describe a scenario where an overload of information pertaining to choices and complex investments menus may discourage participation. • The way information is framed is important when consumers are making decisions. Tiered investment choices and/or a limited menu of core options with additional choices for sophisticated investors may be more effective.

Key Concepts	
Investment inertia	• Once people have made decisions, they tend to leave them unchanged. • Status quo bias is the tendency for people to stick with their prior choices, especially in circumstances of too much complexity. • Evidence shows that, once people have made asset allocation decisions, they tend to leave them unchanged. The status quo then becomes people's default position. • The powerful influence of default options is consistent with this bias, for instance, the default investment offering has a large swing on people's choices, with 90% of people often accepting a default fund even where there are other fund choices. • The bias of status quo is relevant to the selection of financial products and the desire to stay informed. Even if consumers can be shown to be making poor decisions, it is debatable whether any intervention should occur to rectify their thinking.
Representativeness	• When faced with having to make decisions under conditions of uncertainty and inadequate information, an individual will tend to see patterns and similarities to previous contexts where perhaps none exist. • With regard to investment decision-making, investors will often assume that a recent pattern of events in financial markets will continue into the future. For example, many investors will seek out high performance or 'hot' stocks and avoid stocks which have performed poorly in the recent past. The implicit assumption is that the manner in which these securities have performed in the recent past provides a 'rationale' for believing that they will perform in a similar fashion in the foreseeable future.

Key Concepts	
Overconfidence	• Overconfidence leads many investors to overestimate their predictive ability. • People can be slow to revise their previous assessment of a company's likely future performance, even when there is notable evidence that their existing assessment is incorrect. • People systematically overrate their skills by drawing far too strong inferences from small amounts of data. • Investors often meet the characteristics of overconfidence – they tend to construct forecasts of the future that are typically too optimistic. Poor risk calculations and a perceived sense of control play a large role in overconfidence. • Overconfident investors tend to have higher levels of trading and take more risks; this helps to explain trading behaviours in equity markets. • Common characteristics of overconfident investors are an overreliance on personal experience or that of friends relative to aggregate data in judging risks and returns, and evaluating financial products. • Decision-makers can overweight probabilities of favourable outcomes and underweight probabilities of unfavourable outcomes, as well as overweighting confirming evidence and underweighting disconfirming evidence.
Anchoring	• People tend to base their decisions on reference points that are often arbitrarily chosen. • People are concerned not only with what they have but with how it compares to what they used to have and with what they might have had. For example, whether people choose to sell shares is influenced by what they paid for them. • Anchoring can be influenced through the manner of which a question is posed or any background information and context which is provided. • The chosen reference point which decisions are based on are arbitrarily chosen; people are concerned with not only what they have but how it compares to what they used to have and what they might have had. This means that decision-making is strongly influenced by starting values, which in turn means that regret aversion and loss aversion matter greatly.

Key Concepts	
Gambler's fallacy	• This is the belief that there are discernible sequences or patterns observable in repeated independent trials of some random process, such as the repeated spinning of a roulette wheel. • Another variation of the fallacy is the unexpected repetition of, say, a coin landing on heads may lead some to believe that in the next toss of the coin a head is more likely than a tail. Assuming the coin is fair, with every new toss there is a 50/50 chance of the result being a head or tail. Statistically, this is expressed by the idea that the coin has no memory of the previous outcomes. • The gambler's fallacy echoes sentiments in the 'mean reversion'. Mean reversion refers to the idea that an extreme movement away from a long-term average or norm in some activity, such as the performance of an asset or market, will tend to correct itself in time and that the activity (or the price) will eventually move back towards the mean. • Despite there being observations where the mean reversion does take place in the rule set of pure statistics, this idea is not supported.
Availability	• This is the notion that if something readily comes to mind when asked to consider a question or make a judgment, then what has come to mind must be relevant and important. • This means that investors tend to overweight more memorable facts and evidence. • Decision-makers tend to place more weight on decision information that is presented in a format consistent with the choice format. If an answer is required in numerical terms, verbal information is underweighted. • Decision-makers tend to use information in the form given, rather than manipulate it to a more decision-useful form, and they tend to weight information that is personal more heavily than information that is impersonal.

Research finds that individuals tend to rely more heavily on heuristics as decisions become more complex, or when time is short, or emotions run high. People also tend to reduce the portion of information considered when they are under stress.

From these, a number of useful conclusions can be sought that can help when explaining investment choices and risk:

- Offering more choice to consumers is not always helpful as it can increase procrastination, reduce satisfaction, and incline people to invest less or invest in low risk/return funds and drive individuals to simple options.
- Behavioural economists refer to the concept of choice overload to describe the situation where complex investment menus may discourage participation.

- Well designed and managed investment solutions may be a better option for most people than too much choice.
- Wealth managers need to counsel their clients to avoid the risk of herd behaviour by using examples of previous asset price bubbles.
- When dealing with overconfidence, wealth managers need to exercise even greater care in establishing a client's risk profile with careful framing of questions and explanations of the risk of loss.
- Anchoring shows that people are very much influenced by the manner in which a question is posed or any background information and context is provided. Questions and information need to take account of the cognitive ability of the client and any tendency to overconfidence or risk aversion.

1.6.3 Prospect Theory

Traditional financial theory suggests that we aim to maximise our investment decisions by making an overall evaluation of whether an investment choice is desirable.

According to prospect theory, however, people value gains and losses differently and so will base decisions on perceived gains rather than perceived losses. So, if a person were given two equal choices, one expressed in terms of possible gains and the other in possible losses, they would choose the former – even when they achieve the same economic end result.

Some of the key concepts addressed by prospect theory are shown in the following table:

Prospect Theory	
Loss aversion	• Research in behavioural finance finds that investors are inconsistent in their attitude to risk. Individuals play safe when protecting gains but are reluctant to realise losses.
Regret aversion	• This arises from the desire to avoid feeling the pain of regret resulting from a poor investment decision. • Regret aversion can encourage investors to hold poorly performing shares, since avoiding their sale also avoids having to acknowledge the fact that a poor investment decision has been made. • The wish to avoid regret can also bias new investment decisions, as people will often be less willing to invest new sums in investments or markets that have performed poorly in the recent past.
Mental accounting	• Behavioural finance has challenged the standard economic assumption that individuals treat types of income and wealth equally. • It could mean, for example, that individuals prefer to invest their own pension contribution as safely as possible, while there may be more appetite to seek higher returns with the employer contribution.

Prospect Theory	
Information and noise traders	• According to portfolio theory, the correct procedure to adopt for success as an investor is to become an 'information trader', as being in possession of high-quality information is the key to a profitable investment strategy. • Since 'noise' is the opposite of information, people who trade on noise make trading decisions without the use of fundamental data, relying instead on trends, sentiment, anomalies and momentum. • Since noise traders, by definition, do not trade on fundamentals, they are allegedly more likely to buy high and sell low.

Research suggests that is it is easier for an individual to forgo a gain than to accept a loss. This has implications for investment behaviour and investment decisions:

- Investors will be risk averse for a realised gain and will act to lock in this gain prematurely, the so-called disposition effect.
- When it comes to losses, a breakeven effect operates. Recognising they face a certain loss, many investors take on additional risk in an attempt to recover their investment and break even. This is particularly so in falling stock markets, where losses are perceived as temporary and another bet will enable the losses to be recovered.

It is also important to recognise that certain groups of people may have higher levels of loss aversion due to a:

- **Lack of financial capacity** to bear a loss. People may lack the financial capacity to bear a loss due to a low number of remaining working years. Alternatively, their retirement may be relatively demanding, for example those suffering long-term ill health, including people who are less physically able, deaf or blind. Also, parents and guardians of others with special needs who may need to continue to meet the cost of care for their dependants even after the former retire. The needs of such groups of individuals may require specific and higher financial outlay, and so out of necessity, are more loss averse.
- **Lack of financial capability** to understand the meaning of investment loss.
- **Psychological reluctance or unwillingness to bear a loss.** Psychological or other personal attributes may mean some people are loss averse and loss avoiding. Personal and psychological attributes can be difficult to identify in advance.

Loss aversion with loss avoidance behaviour is a potential problem as it may lead investors to apply loss aversion strategies that are inappropriate or stop investing altogether. A wealth manager should focus on communication strategies in order to help clients better understand this area.

2. Time Value of Money

Money has a **time value**. That is, money deposited today will attract a rate of interest over the term it is invested. So, $100 invested today at an annual rate of interest of 5% becomes $105 in one year's time. The addition of this interest to the original sum invested acts as compensation to the depositor for forgoing $100 of consumption for one year.

In finance, we often face decisions concerning the determination of how much we need to save today – its **present value** (PV) – for consumption in the future – its **future value** (FV). Alternatively, we may need to find out what a future payment of money will be when it is converted to present value terms. To carry out these tasks easily we need to understand the mathematics of time value calculations. The time value of money is a concept where today's cash flow (PV) is converted to an equivalent value to any point in the future (FV). Understanding the time value concept is an essential skill for any finance practitioner.

2.1 Compound Interest

Learning Objective

4.2.1 Understand the principles of compound interest and the time value of money

Interest, whether payable or receivable, can be calculated on either a simple or compound basis.

Whereas simple interest is calculated only on the original capital sum, compound interest is calculated on the original capital sum plus accumulated interest to date.

The idea of compound interest and the effect it can have on an investment takes account of the additional growth that arises when an investor leaves their interest invested with the main deposit (the principal) instead of withdrawing it to spend: they begin to earn interest on that interest, and their investment grows all the faster for it.

For completeness, we will first look at simple interest. Simple interest is calculated on the original amount only and assumes that at the end of each interest period the interest is withdrawn. This is obviously the most basic of interest calculations and very straightforward, so if $100 is invested at:

- 5% for one year, then you will clearly receive $5 interest; simple interest is the principal multiplied by the rate and then by the number of years.

Simple Interest

In formula terms, this can be expressed as:

$$I = p \times r \times t$$

Where:

I = simple interest, which is the total amount of interest paid
p = initial sum invested or borrowed (also called the principal)
r = rate of interest to be expressed as a decimal fraction, ie, for 5% use 0.05 in the calculation
t = number of years or days expressed as a fraction of a year

The variations on this straightforward calculation are where the time period that the amount is invested for is a number of years, or alternatively, a number of days. So, for example:

- If $200 is invested at a rate of 7% pa for two years, the simple interest calculation is: $200 x 0.07 x 2 = $28.00.
- If $300 is invested at a rate of 5% pa for 60 days, the simple interest calculation is: $300 x 0.05 x 60/365 = $2.47.

It should be noted that in some countries, the interest rate convention is to use a 365-day interest year even in a leap year, while other countries have different conventions, for instance, in the US, a 360-day convention is used.

Compound interest assumes that the interest earned is left in the account or reinvested at the same rate, so that in subsequent interest periods you are earning interest on both the principal and the interest that has been earned to date.

So, for example, if $100 is deposited in an account at 5% pa where the interest is credited to the account at the end of the year, then the balance at the end of the year will be $105. In the second year, interest at 5% will be earned on the starting balance of $105, amounting to $5.25, and the balance on which interest will be earned in the third year will be $110.25, and so on. This is shown in the following table:

Year	Balance at the Start of the Year	Interest Rate	Interest for the Year	Balance at the End of the Year
1	100.00	5%	5.00	105.00
2	105.00	5%	5.25	110.25
3	110.25	5%	5.51	115.76
4	115.76	5%	5.79	121.55
5	121.55	5%	6.08	127.63

Instead of performing the calculations shown above, we can easily calculate this using the future value formula, as follows:

$$\text{Initial sum invested} \times (1 + r)^n$$

Where:

- r is the interest rate for the period.
- (1 + r) turns the interest rate into a decimal so, for example, 5% pa becomes 1.05.
- The decimal is then raised to the power of n where n equals the number of periods (in this case 5 years).

Using the example above, you can see how the formula operates by using a scientific calculator and entering 100 x 1.05^5 which will show: \$100 x 1.055 = \$127.62815625.

The term $(1+r)^n$ is known as the compounding factor which in this example is 1.2762815625. It is this compounding factor that is applied to the original investment.

In the previous example, interest has been calculated annually, but this is not always the case. Interest may be compounded discretely over smaller intervals of time: daily, weekly, monthly or quarterly or even continuously. If the annual rate of interest (r) is given then the compounding factor can be readily determined by dividing the annual rate by the frequency of payment.

The following table shows the impact of different frequencies of interest payment on an investment of \$100 again for a five-year term, but this time at a rate of 6% pa.

Amount Invested	Frequency of Interest Payment	Rate	Number of Periods in the Term	Formula	Future Value of the Investment
\$100	Annual	6%	5	$(1+0.06)^5=1.3382$	\$133.82
\$100	Half-Yearly	3%	10	$(1+0.03)^{10}=1.3439$	\$134.39
\$100	Quarterly	1.5%	20	$(1+0.015)^{20}=1.3469$	\$134.69
\$100	Monthly	0.5%	60	$(1+0.005)^{60}=1.3489$	\$134.89

The results of this calculation show that over the five-year term, the greater the frequency of interest payments, the higher will be the future value.

Compounding effects may appear to be small over short periods, but over a long time they can make a considerable difference to the growth of an investment. To see this, use the formula above to calculate what the future value of an investment of \$100,000 would be if it is invested for 25 years at an annual rate of 5%.

2.2 Present Value

Learning Objective

4.2.2 Be able to calculate the net present value of: lump sums; regular payments, annuities

Calculating present value is used to determine how much to invest today, given a rate of interest and frequency of payment, in order to achieve a required amount.

The methods used to calculate present value are known as discounted cash flow (DCF) techniques. The rate of interest that is to be received is known as the **discount rate**, and the amount that is required to be achieved is known as the future value or terminal value.

2.2.1 Present Value of a Future Sum

The amount that needs to be invested today is established by discounting the amount that is required by the rate of interest. It can be calculated by rearranging the formula for compound interest as follows:

$$\text{Present Value} = \frac{\text{Future Value}}{(1+r)^n}$$

We will use the data from the compound interest formula to show that this is the case.

Example

So, although we already know the answer, how much needs to be invested today at 5% pa to generate $127.62815625 over five years?

The formula is:

$$127.62815625 \div 1.05^5 = £100$$

You can prove this by entering into your calculator $127.62815625 \div 1.05^5$.

As the present value formula expresses a future cash flow in today's terms, it allows a comparison to be made of competing investments of equal risk which have the same start date, but where the payments have different timings or amounts.

It also has practical uses in wealth management such as determining how much a client needs to invest today to generate a known sum at a future date. For example, a client may need a sum of $10,000 in seven years' time to fund a known event and can earn a fixed return of 3% pa. The amount that needs to be invested today can be calculated as follows:

$$\$10,000 \div 1.03^7 = \$8,130.92$$

2.2.2 Present Value of a Series of Cash Flows

The present value of a series of cash flows is usually referred to as the present value of an annuity as it refers to a series of equal cash payments that will be received over a specified period.

If we expect to receive payments of $100 each over the next three years, we can calculate their present value assuming interest rates are 5% using the present value formula. The following table shows the calculation and that the interest rate of 5% is referred to as a discount rate.

Year	Cash Flow	Discount Rate	Formula	Discount Factor	Present Value
1	100.00	5%	$100.00 \div 1.05$	0.9524	95.24
2	100.00	5%	$100.00 \div 1.05^2$	0.9070	90.70
3	100.00	5%	$100.00 \div 1.05^3$	0.8638	86.38
Total					272.32

So the present value of those future payments is $272.32. The table also shows how this converts into a discount factor, that is, by how much the future value is discounted in decimal terms.

The formula for the present value of an annuity enables the present value of each of the cash flows to be established rather than having to calculate each cash flow individually as above. The present value of an annuity is calculated by discounting the cash flows to today's value. The same formula can be used for regular payments.

$$\text{Present Value of an Annuity} = \$x \times \frac{1}{r}\left[1 - \frac{1}{(1+r)^n}\right]$$

Where:

- $\$x$ = amount of the annuity paid each year.
- r = the rate of interest over the life of the annuity.
- n = the number of periods that the annuity will run for.

Using this formula, we can repeat the calculation of the present value of a series of cash flows of $100 over the next three years as:

$$\$100 \times \frac{1}{0.05}\left[1 - \frac{1}{(1+0.05)^3}\right] = \$272.32$$

To enter this into a calculator, start with the figures inside the square brackets and enter 1 – 1 ÷ 1.05 ^ 3 followed by = to give 0.136162401. Then multiply this by the values outside the square bracket, in other words, 0.136162401 x 100 x 1 ÷ 0.05 followed by = which will give the answer of 272.32.

The present value of an annuity is used in investment appraisal and can be used for calculating such things as an annuity or the monthly repayments on a mortgage. You should also recognise the concept of discounting future cash flows at a discount rate from the valuation process for a bond – the price of a bond is its future cash flows discounted at a required rate.

For example, we can calculate the current price of a bond that carries a 5% coupon and is repayable in precisely three years' time by discounting the amount to be received by a required GRY of say 3%.

Year	Cash Flow		Discount Rate	Formula	Present Value
1	Interest	5.00	3%	$5.00 \div 1.03$	4.85
2	Interest	5.00	3%	$5.00 \div 1.03^2$	4.71
3	Interest	5.00	3%	$5.00 \div 1.03^3$	4.58
3	Redemption	100.00	3%	$100.00 \div 1.03^3$	91.51
Total		115.00			105.65

So, the sum of the **net present value (NPV)** of the cash flows will represent the current price of the bond – 105.65 – which is priced over par as the coupon rate is higher than the required GRY. We can use the present value of an annuity formula to calculate the same result.

$$\text{Present value of the interest payments} = \$5 \times \frac{1}{(0.03)}\left[1 - \frac{1}{(1+0.03)^3}\right] = \$14.14$$

To this we need to add the discounted value of the redemption payment of 91.51 to give the same result.

An alternative version of the formula is:

$$\text{nnuity x}\left[\frac{1-(1+r)^{-n}}{r}\right]$$

You should note that $(1+r)^{-n}$ is more simply calculated as $1 \div (1+r)^{n}$. So, using the same figures as above the formula becomes:

$$\$5 \text{ x}\left[\frac{1-\left\{\frac{1}{1.03^3}\right\}}{0.03}\right] \text{ or } \left[\frac{1-\left\{\frac{1}{1.092727}\right\}}{0.03}\right] \text{ or } \left[\frac{1-0.915142}{0.03}\right] = \$5 \text{ x } \frac{0.084858}{0.03} = \$14.14$$

2.2.3 Present Value of an Indefinite Series of Cash Flows

The present value of an indefinite series of cash flows is usually referred to as the present value of a perpetuity as it used to value a series of equal cash payments that will be received indefinitely.

It is simply calculated using the following formula:

$$\text{Present value of a perpetuity} = \text{annuity} \times \frac{1}{r}$$

So, for example, if $1000 is to be received each year in perpetuity, what is its present value at an interest rate of 5%?

$$\$1{,}000 \times \frac{1}{0.05} = \$20{,}000$$

Although a perpetuity really exists only as a mathematical model, it can be used to approximate the value of a long-term stream of equal payments by treating it as an indefinite perpetuity. So, for example, if you have a commercial property that generates $10,000 of rental income and the discount rate is 8%, then the formula can be used to calculate its present value by capitalising those future payments into its present value, which would be $125,000.

Perpetual Bond Calculations

A **perpetual bond** is a bond with no maturity date; hence it pays coupons indefinitely and the bond is not redeemed; it is irredeemable. Perpetual bonds are priced using the following formula:

$$P = \frac{C}{Y}$$

Where:

- P = price of the bond.
- C = annual coupon rate.
- Y = yield to maturity of the bond.

Preferred Shares and Calculations

Preferred or preference shares are equity instruments that are often considered to be a hybrid instrument as they have similar characteristics to a bond and a share. The shares pay a constant dividend indefinitely where the shares are irredeemable. Hence, as with a perpetual bond, they can be considered as securities offering fixed income indefinitely.

One method of identifying the potential price of preferred shares is to use the following formula (although they will be influenced by other factors as well):

$$P = \frac{D}{K}$$

Where:

- D = the constant dividend set for the security.
- K = the return expected by the holder of the share.

2.3 Future Value (FV)

Learning Objective

4.2.3 Be able to calculate the future value of: lump sums; regular payments, annuities

FV refers to the future value of an amount invested now at a given rate of interest.

We effectively already looked at FV when we considered compounding interest. We saw that the FV of $100 deposited today at 5% pa for a period of years was:

Year	Balance at the Start of the Year	Interest for the Year	Balance at the End of the Year
1	100.00	5.00	105.00
2	105.00	5.25	110.25
3	110.25	5.51	115.76
4	115.76	5.79	121.55
5	121.55	6.08	127.63

The formula for calculating FV is a version of the one we saw earlier.

Future Value = Present Value x $(1 + r)^n$

So, to calculate the value in five years' time of $100 invested today at 5% pa, you enter this into a calculator as $100 \times 1.05^5 = 127.63$.

Where interest is paid more frequently, the formula is adjusted so that if interest is instead paid half-yearly it would become:

$$\$100 \times 1.025^{10} = \$128.00845$$

In the example above, therefore, the rate of interest for the half-year has been calculated first: namely, half of 5% which is then expressed as a decimal as 1.025. The term is then converted into the number of periods on which interest will be paid, in other words, ten half-yearly interest payments.

So, if a client was to invest $10,000 for seven years and the anticipated growth is 6% pa, you can use this formula to estimate what the value at the end would be.

The formula would be:

$$\$10{,}000 \times (1+0.06)^{7} = \$15{,}036.30$$

2.3.1 Future Value of Regular Payments

So far we have concentrated on establishing the final value of invested lump sums when compound interest is applied. We now move on to looking at how final values are established when a series of equal payments are invested either at the start or the end of each year. The former payments are known as being made in advance, while the latter are termed as being made in arrears.

Payments in Advance

If investing at the start of each year, then the formula is:

$$FV_n = \text{regular payment} \times \left\{ \left(\frac{(1+r)^{n+1} - 1}{r} \right) - 1 \right\}$$

$100 is invested at the start of each year for five years at a fixed rate of interest of 6% pa compounded annually. What will the accumulated value of these series of payments be at the end of the five-year period?

Solution:

$$£100 \times \left\{ \left(\frac{(1+0.06)^{5+1} - 1}{0.06} \right) - 1 \right\} = £597.53$$

The following table shows a detailed calculation to prove the formula.

Year	Opening Balance	Deposit	New Balance	Interest Rate	Interest	Balance at Year End
1	0	100	100.00	6%	6.00	106.00
2	106.00	100	206.00	6%	12.36	218.36
3	218.36	100	318.36	6%	19.10	337.46
4	337.46	100	437.46	6%	26.25	463.71
5	463.71	100	563.71	6%	33.82	597.53

Payments in Arrears

Where the regular payment is made at the end of each year, the formula above is adjusted to:

$$FV_n = \text{regular payment} \times \left(\frac{(1 + r)^n - 1}{r} \right)$$

$100 is invested at the end of each year for five years at a fixed rate of interest of 6% pa compounded annually. What will the accumulated value of these series of payments be at the end of the five-year period?

Solution:

$$£100 \times \left(\frac{(1 + 0.06)^5 - 1}{0.06} \right) = £563.71$$

Note that the difference between this final sum and that above where each payment had been made at the start of the year is $597.53 – $563.71 = $33.82. This difference is solely accounted for by one earlier payment being invested over the entire five-year period, ie, ($100 x 1.06^5) – $100 = $33.82.

This can be validated as shown in the following table.

Year	Opening Balance	Interest Rate	Interest	Deposit	Balance at Year End
1	0.00	6%	0.00	100.00	100.00
2	100.00	6%	6.00	100.00	206.00
3	206.00	6%	12.36	100.00	318.36
4	318.36	6%	19.10	100.00	437.46
5	437.46	6%	26.25	100.00	563.71

2.4 Real and Inflation Adjusted Returns

Learning Objective

4.2.4 Be able to calculate real and inflation adjusted returns: nominal returns; real or inflation adjusted returns; total returns; Fisher Effect equation

When looking at returns, it is important to take account of the effect of inflation.

2.4.1 Real Returns

A real return is one that is adjusted for price changes due to inflation or other external factors. Interest rates can be expressed in two ways: as nominal rates or real rates. The difference is that nominal rates

are not adjusted for inflation, while real rates are adjusted. As a result, nominal rates are almost always higher, except during those rare periods when deflation, or negative inflation, takes hold.

The real return therefore takes into account the effect of inflation on the nominal rate of return and is calculated simply as:

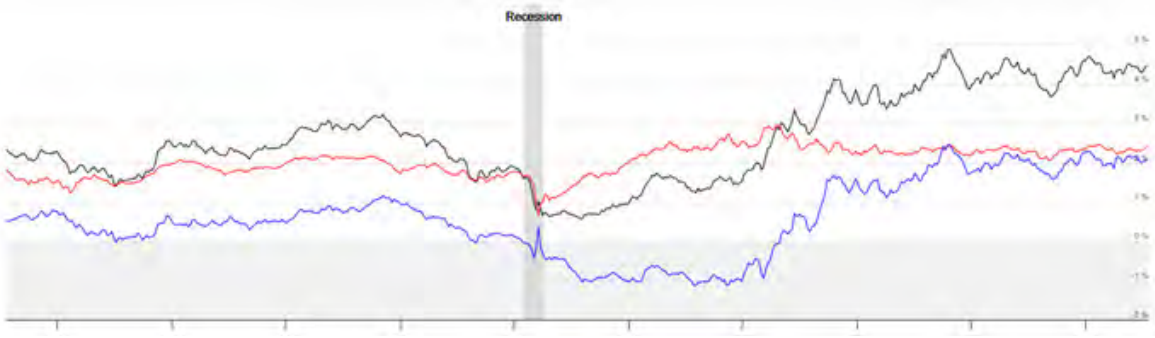
Real rate of return = nominal return – inflation rate

So, for example, if a bank savings account is paying 2.5% and inflation is 2%, then the **real rate of return** is 0.5%. In an environment of low interest rates, real returns are often negative – for example, a savings account may offer a return of 1% but when inflation is averaging 2% the real return is –1%. This implies that the account is not retaining its purchasing power and is falling in real terms.

Knowing the real rate of return of an investment is important when considering investments as inflation can eat away at the value as time goes on. Adjusting the rate of return for the effect of inflation allows for a more effective measurement of the return being earned on different investments.

An example of this has been playing out in the UK and other countries for the last ten years or so. To illustrate this point, the following graph shows the real rate of return on savings in the UK over the last ten years, calculated by deducting the inflation rate as measured by CPI deducted from the average rate on one-year fixed deposits. Interest rates are low due to economic policy and real returns are either minimal or negative leading investors to seek alternative homes for their savings in a search for yield even if it entails greater risk.

Real Rates of Return



Black Line – Nominal Interest Rate

Blue Line – Real Interest Rate

Red Line – Inflation Rate

The real interest rate is calculated as the difference between the nominal interest rate and the inflation rate. The chart above displays the nominal interest rate of a one-year US Treasury bond, the US inflation rate, and the resulting one-year real interest rate. Inflation is defined as the yearly percentage change

of the Consumer Price Index (CPI). When inflation is high, prices for goods and services rise and thus the purchasing power per unit of currency decreases. The chart shows that, adjusted for inflation, the yields on US Treasuries (blue line) have often been negative.

Source: Longtermtrends.net

2.4.2 Inflation Adjusted Returns

The method of calculating the real rate of return we looked at above is only an approximation of the effect of inflation on the nominal rate.

The inflation adjusted return as the name suggests removes the effect of inflation on an investment's performance over time, but it differs from the calculation above as it removes the effect of compounding. The result is the real rate of return but calculated more accurately.

The inflation adjusted return is calculated using the following formula with the result expressed as a percentage:

$$\text{Real rate of return} = \frac{1 + \text{nominal rate}}{1 + \text{inflation rate}} - 1$$

Real returns are useful when comparing returns over different time periods because of the differences in inflation rates. Also, they are useful for comparing investments in different countries because the investments will be in different local currencies and will have different inflation rates.

2.4.3 Fisher Effect Equation

The **Fisher Effect** is named after the economist Irving Fisher and is an economic concept that describes the relationship between inflation and both real and nominal interest rates.

According to the Fisher Effect, the real interest rate is equal to the nominal interest rate minus the expected rate of inflation and is calculated using the formula in the previous section.

The Fisher Effect describes the relationship between the money supply and its effect on nominal interest rates and the inflation rate. In simple terms, it suggests that a change in the central bank's **monetary policy** that would result in inflation rising by 1% would imply that nominal interest rates should follow suit. In that scenario, real returns would remain the same. The theory describes the long run relationship when an economy is operating at full employment and is subject to a number of limiting factors.

3. Investment Risk and Return

As part of the financial planning process, a client's investment objectives and attitude to risk will have been established. Within that, several types of return can be distinguished.

Types of Investment Return	
The investor's desired return	• The desired return is the amount of return the investor hopes to receive based on that which past evidence suggests is possible. • Alternatively, it may be the amount of return needed to meet a future liability.
The investor's required return	• The required return is the amount of return the investor needs to achieve in order to invest. • This is taken from the CAPM, and uses the risk-free rate, the beta of the security to the market and the market return. • It is the return required in order to hold a security with the level of risk as specified by its beta.
The investor's expected return	• The amount of return the investor expects to receive based on analysis of a prospective investment. • In security appraisal, the expected return is compared to the required return in order to determine whether a particular security is overvalued or undervalued relative to the Securities Market Line.
The investor's realised return	• The amount of return the investor actually receives.

As you will see from the above, the first three types of investment return are on an expected, or forward-looking, basis. Expected investment returns can also be thought of as being classed from low to high so that the greater the expected return, the greater the risk.

Potential return and risk are generally positively correlated:

- High risk investments generally have potential for a higher reward, plus a greater possibility of loss.
- Low-risk investments generally have a lower reward, with a lower possibility of loss.

After the event, however, some investors will have endured more or less risk than expected for a given return, but this could not have been known beforehand.

An understanding of what is achievable from returns is crucial to being able to set an investment objective and meet it within a risk constraint. It is because clients have investment objectives which often require investment in something more than a risk-free asset that an investment strategy that balances asset allocation with the level of risk the client can bear is needed.

The trade-off between risk and return is central to setting an investment objective. Two approaches that can be used are:

- Determine the required level of return and calculate how much risk is acceptable to achieve that return.
- Determine an acceptable level of risk and then estimate what level of return might be expected.

If the return objective is too ambitious then the investments selected are likely to have higher volatility which will increase the spread of investment returns, expose the investor to higher losses in market downturns and impact the portfolio value that is being targeted.

It is usual for an investment objective to adopt one of the following approaches:

- Target replacement income objective.
- Benchmark-driven return objective.
- Best-efforts basis.
- Liability-driven return objective.

Investment Objectives	
Target replacement income objective	• This expresses the desired return in terms of an amount of income that the client may need in the future usually in retirement. • Alternatively, it may be expressed as an amount of money that will be needed to generate the required income.
Benchmark-driven return objective	• This expresses the return relative to an appropriate benchmark such as interest rates, inflation or an index. • The objective is to generate positive absolute returns in excess of the selected benchmark.
Best-efforts basis	• This involves the investment manager allocating assets with a view to maximising returns for an acceptable level of risk but not defining what the return should be.
Liability-driven return objective	• This involves the investment manager allocating assets to meet a specific end target.

3.1 Types of Investment Risk

Learning Objective

4.3.1 Be able to analyse and explain the main types of investment risk, and their implications for investors: systemic risk; systematic and non-systematic risk; market risk – asset price volatility, currency, interest rates, foreign exchange rates, commodity price volatility; inflation/disinflation; country risk; gearing/leverage; concentration and diversification; counterparty and institutional risk; market timing; drawdown; sequencing risk; corporate governance risk; liquidity, credit risk and default; investment horizon

Risk arises from the uncertainty of outcomes.

The result of each investment decision is uncertain in the same way that any future event is. We invest expecting to make a profit, but a loss might arise if the opportunity has been miscalculated or the expected return may not materialise. Equally, an external event may lead to a market crash. All of this

contributes to the potential for profit and the uneasiness all investors feel about their investment decisions. This is our general notion of risk.

There are a number of types of risk faced by investors that are difficult to avoid, and the main categories are summarised in the following table.

Types of Risk	
Market or systematic risk	• This is the risk that the overall market in general, or the relevant part of the capital markets for investors wanting exposure to specific sectors, will rise or fall, as economic conditions and other market factors change. • This may affect returns over a period of time, or it may have a more immediate impact if an investor buys at the top of the market or sells at the bottom.
Inflation risk	• Inflation will erode returns or purchasing power and, even if the investor has taken account of inflation in their analysis, the actual and expected inflation may be different from that assumed in calculating expected returns.
Interest rate risk	• Changes in interest rates will affect prices; this is a subcategory of market risk.
Exchange rate risk	• Any investor who purchases securities which are denominated in a foreign currency may suffer (or benefit) from changes in the exchange rates between their base currency and the other currency. • In addition, one has to consider the risk that the investor's home currency may fall against other currencies, thereby diminishing its purchasing power for global assets.
Default risk	• An investor may find that a company in which they have invested becomes insolvent due to a harsh operating environment, high levels of borrowing, poor management or other financial miscalculations.
Liquidity risk	• The assumption usually made is that large capital markets such as the London Stock Exchange provide liquidity for investors to easily sell a security with a narrow spread between the ask and the bid prices. • During stressful periods this liquidity can diminish and it can become much harder to readily sell a security. In extreme cases, the price quoted by the market-makers or **investment bank** may be for a relatively small amount of shares.

Other types of risk that need to be considered include:

- **Investment horizon** – time horizon will influence the level of risk that can be taken in order to achieve objectives. An investor with a long-term time horizon may be able to tolerate a higher risk, as any poor returns in one year will be cancelled by high returns in subsequent years before the fund is required to deliver its required outcome.

- **Counterparty risk** – counterparty risk is the risk that the party to a transaction will fail to meet their obligations. Exchanges have established procedures to mitigate this type of risk, but it is still present in OTC markets and with certain investment products such as structured products and ETFs that use synthetic replication.
- **Systemic risk** – systemic risk is the risk of collapse or vulnerability of the entire financial system or entire market, as opposed to risk associated with any one individual entity, group or component of the financial system.

The most general kind of risk is market or systematic risk which will be primarily influenced by macroeconomic conditions and the state of the financial system. To a large extent this risk cannot be avoided but for the typical investor there are some precautionary measures which will help to alleviate one's exposure to non-systematic risk.

Systematic and Diversifiable Risk	
Diversifiable risk	• The risk that can be diversified away is that relating to specific or particular investments. • This kind of risk is called non-systematic or specific risk. • For example, a company might lose a major customer, or it might suffer a loss in its share of sales in its particular market. Such events can adversely affect the share price of that particular company.
Systematic risk	• Systematic risk cannot be diversified away by holding a range of investments in that particular market. • This kind of risk is also called non-diversifiable risk or market risk. • For example, during a global recession all share prices may be falling and returns declining, then a wide and diversified portfolio of shares is very likely to fall in line with the wider market. The risk of this happening affects the whole 'system' – the market.

By spreading investments made in a portfolio over several different securities, from different asset classes, it is possible to get more or less the same returns that any one of them can offer but with a much lower risk since, though one may become worthless, it is unlikely that they will all do so simultaneously. Diversification reduces risk without necessarily reducing returns.

An investor with limited funds to invest can achieve a high degree of diversification by investing in collective funds such as mutual funds. This can reduce non-systematic risk to low levels. However, systematic risk cannot be eliminated.

3.2 Risk and Return Measures

Learning Objective

4.3.2 Be able to analyse the main risk and return measures, their purpose, and how they are used within asset and portfolio evaluation: time-weighted return; money-weighted return; holding period return; total return and its components; standard deviation; volatility; covariance and correlation

Determining the risk of an investment requires an assessment of the variability of returns using the standard deviation of returns. This involves calculating the variance of returns and from that the standard deviation.

3.2.1 Variance

Let us assume that the following numbers represent the returns from an investment fund over the past ten years:

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Return	13	11	2	6	5	8	7	9	7	6

Variance measures the spread of data to determine the dispersion of data around the **arithmetic mean** as shown in the following table.

- The arithmetic mean = (13%+11%+2%+6%+5%+8%+7%+9%+7%+6%) ÷ 10 = 7.4%.
- Variance takes the difference between the return in each year from the arithmetic mean and then squares it. Row 2 shows the difference in the return each year from the arithmetic mean and row 3 shows this difference squared.
- These are then totaled and the average of them represents the variance.

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
1	Return	13	11	2	6	5	8	7	9	7	6	
2	Difference from the arithmetic mean $x - \overline{x}$	5.6	3.6	–5.4	–1.4	–2.4	0.6	–0.4	1.6	–0.4	–1.4	
3	Difference squared $(x - \overline{x})^2$	31.36	12.96	29.16	1.96	5.76	0.36	0.16	2.56	0.16	1.96	86.40
4	Average (86.40 ÷10)											8.64

3.2.2 Standard Deviation

Variance is useful in that it provides a measure of dispersion and is used to calculate the beta of a stock, but it results in a value in different units than the original. It is obviously much easier to measure dispersion when it is expressed in the same units, and this is known as standard deviation.

Calculating Standard Deviation

Standard deviation is the square root of the variance. The formula for calculating population standard variance is:

Population standard variance = $\sigma = \sqrt{\frac{\Sigma(x - x)^2}{n}}$

So, the standard deviation of the returns from the investment fund is the square root of the average of 8.634, which is 2.94.

Where only a sample set of data is being used, then the formula is adjusted as sampling error may arise by reducing the number of observations by one.

Sample standard variance = $\sigma = \sqrt{\frac{\Sigma(x - x)^2}{n - 1}}$

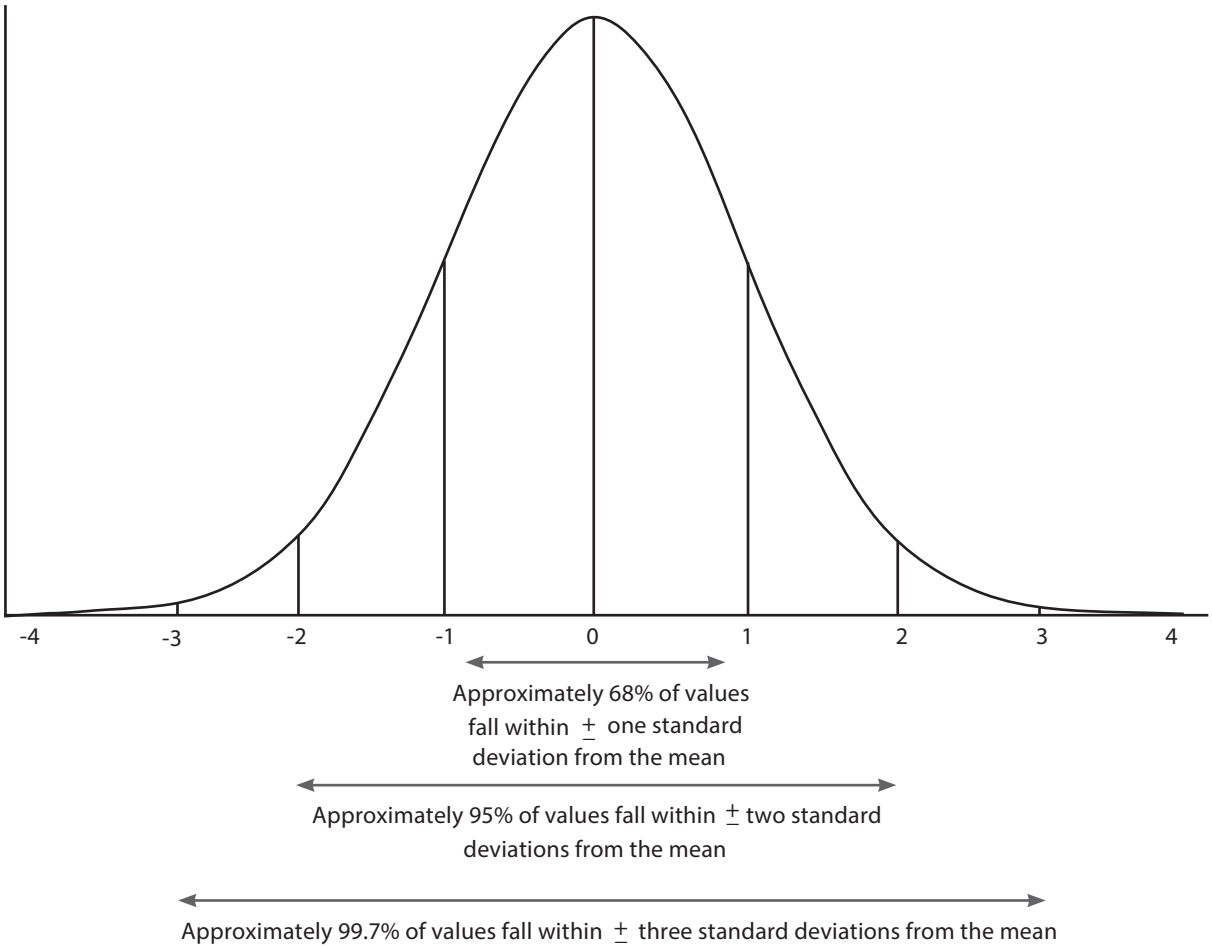
In effect, by taking the square root of the variance, the standard deviation represents the average amount by which the values in the distribution deviate from the mean.

3.2.3 Normal Distribution Curve

One thing which can be said at this stage is that other things being equal, the higher the standard deviation of the returns, the greater the risk. However, that statement has to be seen in the context of the normal distribution of returns which lies at the foundation of so much financial theory and which provides the framework for assessing the probability of different outcomes when the mean and variability of historical returns have been calculated.

With sufficiently large data, the pattern of deviations from the mean will be spread symmetrically on either side and, if the class intervals are small enough, the resultant frequency distribution curve may look like the cross-section of a bell, in other words a bell-shaped curve as shown in the following diagram.

Normal Distribution Curve



For a series of returns on financial assets, if we make the assumption that they are normally distributed (which is not in fact the case as we will see later) then it becomes possible to estimate the probability of their occurrence. Statistical analysis shows that in a normal frequency distribution curve:

- Approximately two-thirds or 68% of observations will be within one standard deviation either side of the mean.
- Approximately 95% of all observations will be within two standard deviations either side of the mean.
- Approximately 99.75% of all observations will be within three standard deviations of the mean.

Applying this to the investment fund returns above, we saw that the mean or average return was 7.4% and the standard deviation was 2.94%. This would imply that if we can expect the returns to be normally distributed that:

- There would be a 68% probability that the annual returns would lie within ±1 standard deviation of the mean. In other words, for two-thirds of the time, the likely or expected return should lie between 4.46% (7.4% – 2.94%) and 10.34% (7.4% + 2.94%).
- There would be a 95% probability that the annual returns would lie within ±2 standard deviations of the mean. In other words, for two-thirds of the time, the likely or expected return should lie between 1.52% (7.4% – 5.88%) and 13.28% (7.4% + 5.88%).
- There would be a 99.7% probability that the return will fall within ±3 standard deviations of the mean. Another way of saying that is that only 0.3% of returns would lie outside the so-called six sigma interval.

Data, however, does not always conform to a normal pattern and is then referred to as skewed. If the peak of the curve is to the left of centre it is said to be positively skewed and if to the right, negatively skewed. Most long-run distributions of equity returns are positively skewed. That is, equity markets produce more extreme positive and negative returns than should statistically be the case – a phenomenon known as kurtosis – but these extreme positive values far outweigh the negative ones. Remember that higher volatility is not necessarily bad so long as it is accompanied by higher returns.

3.2.4 Correlation

From an investment perspective, the statistical notion of correlation is fundamental to portfolio theory. The very simplest idea is that, if one is seeking diversification in the holdings of a portfolio, one would like to have, say, two assets where there is a low degree of association between the movements in price and returns of each asset. The degree of association can also be expressed in terms of the extent to which directional changes in each asset's returns, or their co-movement, are related.

The correlation coefficient measures the strength of the relationship between two variables, such as shares.

The formula for calculating the correlation coefficient is as follows.

Pearson's Correlation Coefficient

Formula:

$$r = \frac{n(\Sigma xy) - (\Sigma x) \times (\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2] \times [n\Sigma y^2 - (\Sigma y)^2]}}$$

This can be more readily followed by using an example.

Correlation Coefficient

To calculate the correlation coefficient let us assume that we have the following data on the returns from two assets and see how this is then used in the calculation.

Period	Asset A	Asset B
1	2.0%	3.0%
2	3.0%	5.0%
3	1.0%	2.0%
4	12.0%	8.0%
5	7.0%	4.0%

The first step is to add some additional columns to the data table to enable us to calculate xy, x^2 and y^2.

Period	Asset A	Asset B	xy	x^2	y^2
1	2.0%	3.0%	2.0 x 3.0 = 6	$2.0^2 = 4$	$3.0^2 = 9$
2	3.0%	5.0%	3.0 x 5.0 = 15	$3.0^2 = 9$	$5.0^2 = 25$
3	1.0%	2.0%	1.0 x 2.0 = 2	$1.0^2 = 1$	$2.0^2 = 4$
4	12.0%	8.0%	12.0 x 8.0 = 96	$12.0^2 = 144$	$8.0^2 = 64$
5	7.0%	4.0%	7.0 x 4.0 = 28	$7.0^2 = 49$	$4.0^2 = 16$

Next, we can find the sum of those.

Period	Asset A	Asset B	xy	x^2	y^2
1	2.0%	3.0%	6	4	9
2	3.0%	5.0%	15	9	25
3	-1.0%	-2.0%	2	1	4
4	12.0%	8.0%	96	144	64
5	7.0%	4.0%	28	49	16
Σ	25	22	147	207	118

Now we have those, we can put the numbers into the formula.

$$\frac{5 \times 147 - (25 \times 22)}{\sqrt{[5 \times 207 - (25^2)] \times [5 \times 118 - (22^2)]}} = \frac{735 - 550}{\sqrt{(1035 - 625) \times (590 - 484)}} = \frac{185}{\sqrt{410 \times 106}} =$$

$$\frac{185}{\sqrt{43460}} = \frac{185}{208.4706} = 0.887415$$

In the table above, the returns on the assets over that period show there is a strong tendency of the returns to move together in a close association.

- This has resulted in a coefficient of correlation between the returns for A and B of 0.89 which indicates a strongly positive correlation.
- There is strong correlation because there is close degree of co-movement in the returns and the relationship is one of positive correlation because not only are the magnitudes of the changes in returns similar but the sign of the changes track each other.
- In other words, when A is going up so is B, and when A is going down so is B.

Correlation statistics are highly useful in portfolio theory. For a portfolio manager who is seeking a diversification of the portfolio's assets/investments, there should be little to no correlation between the movements in the price and returns of each asset.

If assets are likely to react to the same kinds of changes in the business environment, they could be classed as strongly correlated. For example, let us assume that CPI data is released and company A's shares move up by 4% and company B's shares move up by 3% when the data is below expectations, and that the inverse pattern of price movement is seen when the data is above expectations. In such a case, there is a strong relationship between the movements (or changes) in the performance returns of A and B which is expressed as a strong positive correlation.

Correlation coefficient statistics have two components; magnitude and sign:

- A **positive correlation** describes a relationship where an increase in the price of one share is associated with an increase in another.
- A **negative correlation** is a relationship where an increase in one share price is associated with a decrease in another.
- A **perfect correlation** is where a change in the price of one share is exactly matched by a change in another. If both increase together, they have a positive correlation and the correlation coefficient is +1. If one decreases as the other increases, they are said to have a perfect negative correlation and is described by a correlation coefficient of –1.
- Where there is no predictable common movement between security returns, there is said to be zero or imperfect correlation.

Correlation does not imply causation, any elementary text in statistics will make the point that high levels of correlation do not imply a causal relationship between the two variables. For example, in the US, sales of sun protection lotion and snake bites are correlated but there is no causal link – they are related via a third variable – the incidence of extremely hot weather.

In finance, the correlation between assets can be highly unstable over time. It is common for correlation measurements to be used in financial engineering; it underlies complex strategies which are practiced in financial markets like algorithmic trading. The coefficient of correlation as used in finance is commonly squared to form a value known as the coefficient of determination or R^2. This measures how much the variation in one variable can be attributed to the variation of another variable.

Diversification and risk reduction is achieved by combining assets whose returns have not moved in perfect step, or are not perfectly positively correlated, with one another.

Only when security returns are perfectly negatively correlated, in that they move in the opposite direction to one another at all times and in the same proportion, can they be combined to produce a risk-free return providing diversification and risk reduction. Where there is zero or imperfect correlation, there are still diversification benefits from combining securities. In fact, a perfectly positive correlation, when security returns move in the same direction and in perfect step with each other, is the only instance when diversification benefits cannot be achieved.

It should be noted, however, that correlations can arise from pure chance and so the past correlation coefficients of investment returns are rarely a perfect guide to the future.

3.2.5 Covariance

Covariance also indicates how two variables are related.

- A positive covariance means the variables are positively related.
- Negative covariance means the variables are inversely related.

The difference between the two is that covariance tells you whether two assets are positively or negatively correlated, while correlation additionally tells you the degree to which they move together.

The covariance between two shares is calculated by multiplying the standard deviation of the first share by the standard deviation of the second share and then by the correlation coefficient. Both correlation and covariance are time consuming to calculate but it is useful to be aware of how they are related.

Relationship between Correlation and Covariance

$$\text{Correlation (A,B)} = \frac{\text{Covariance (A,B)}}{\text{Standard deviation (A)} \times \text{Standard deviation (B)}}$$

As a result:

Covariance (A,B) = Correlation (A,B) x Standard deviation (A) x Standard deviation (B)

It is, therefore, possible to calculate either provided that other terms are provided by remembering the relationship and substituting the terms provided.

Correlation and Covariance

1. The covariance between two numbers is 30 and their standard deviations are 5 and 15. What is their correlation?

$$\text{Correlation} = \frac{30}{(5 \times 15)} = 0.40$$

2. The correlation between two numbers is 0.40 and their standard deviations are 5 and 15. What is their covariance?

Covariance = 0.40 x 5 x 15 = 30

Securities in portfolios which have a high standard deviation do not necessarily have a high covariance with other shares. If the security has a low correlation with the other shares in a portfolio, then despite its high standard deviation, its inclusion in the portfolio may reduce the overall risk which the portfolio carries. Portfolios which are designed to minimise risk should contain securities as negatively correlated with each other as possible and with low standard deviations to minimise the covariance.

3.3 Diversification and Hedging Techniques

Learning Objective

4.1.6 Be able to assess diversification and hedging techniques to mitigate portfolio risk: significance of alpha and beta; correlation and relative risk; principles of asset allocation; hedging and immunisation; active and passive strategies; cost/benefit considerations

One way to construct a low-risk portfolio is simply to buy low-risk assets, but this usually leads to low returns. A more attractive approach is to buy risky assets which on average will give higher returns, and then reduce the risk in one of two ways, by:

- hedging out risk, or
- diversifying portfolio holdings.

3.3.1 Diversification

As we saw earlier, from an investment perspective the statistical notion of correlation is fundamental to portfolio theory.

The very simplest idea is that, if one is seeking diversification in the holdings of a portfolio, one would like to have, say, two assets where there is a low degree of association between the movements in price and returns of each asset. The degree of association can also be expressed in terms of the extent to which directional changes in each asset's returns, or their co-movement are related.

The following diagrams demonstrate how the monthly returns for two assets can be correlated either negatively or positively and also how this can be plotted on a scattergram to illustrate the degree to which there is a strong linear trend in place between the pairs of values recorded at each time that the returns are calculated.

This involves analysing the relationships between the movements of different assets, and so firstly, we need to consider the key features of regression analysis, which is the basis of quantifying the relationship between two variables.

Regression Analysis

Regression analysis is a statistical tool for the investigation of relationships between variables.

Regression analysis is used to ascertain the effect of one variable upon another – the effect of a price increase upon demand, for example, or the effect of changes in the money supply upon the inflation rate. To explore such issues, data is gathered and regression analysis is employed to estimate the quantitative effect of the one variable upon another. The statistical significance of the estimated relationships is also assessed, that is, the degree of confidence that the true relationship is close to the estimated relationship.

A regression equation allows the relationship between two (or more) variables to be demonstrated algebraically. It indicates the nature of the relationship and the extent to which you can predict some variables by knowing others, or the extent to which some are associated with others.

Regression Equation

A linear regression equation is usually written as follows:

$$Y = a + bX + e$$

where:

Y is the dependent variable
a is the intercept
b is the slope or regression coefficient
X is the independent variable (or covariate)
e is the error term

The equation will specify the average magnitude of the expected change in Y given a change in X.

The regression equation is often represented on a scattergram by a regression line. A regression line is a line drawn through the points on a scattergram to summarise the relationship between the variables being studied.

To achieve this, regression analysis employs a concept known as least squares regression, which by drawing on the data calculates the position of a unique straight line that best represents, or best fits, the collective position of all of these points. This it does by calculating how to collectively minimise the square of each of the vertical distances of these points from a single straight line.

- When it slopes down (from top left to bottom right), this indicates a negative or inverse relationship between the variables.
- When it slopes up (from bottom left to top right), a positive or direct relationship is indicated.

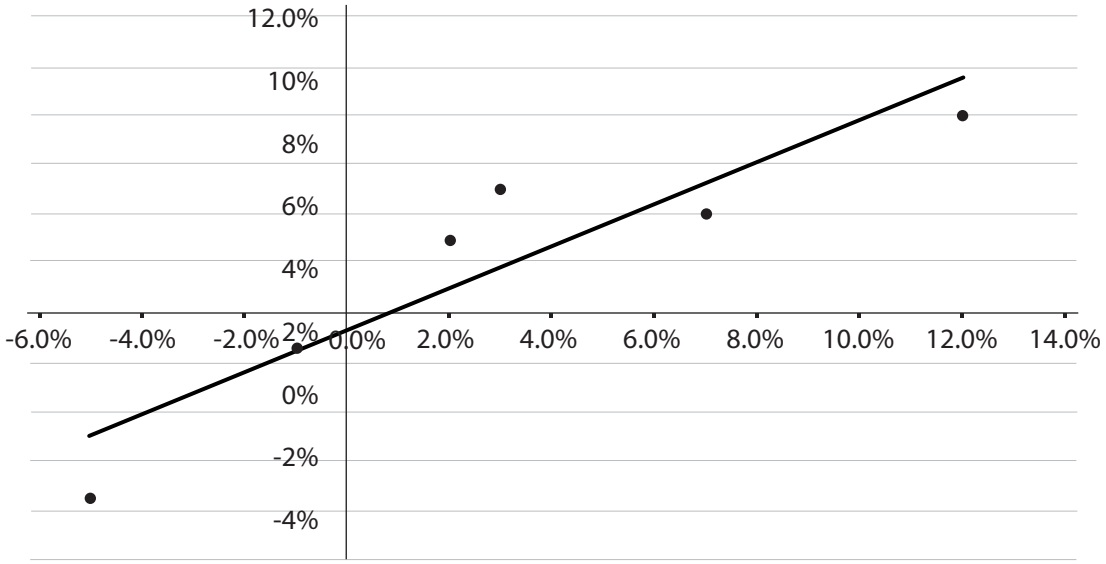
Strong Positive Correlation

In the following table, the returns on two assets over a six-month period are shown and it will be seen that there is a strong tendency for the returns to move together in a close association. This has resulted in a coefficient of correlation between the returns for A and B of 0.92 (rounded to 2dp), which indicates a strongly positive correlation.

Month	Asset A Return	Asset B Return
1	2.0%	3.0%
2	3.0%	5.0%
3	–1.0%	–1.5%
4	12.0%	8.0%
5	7.0%	4.0%
6	–5.0%	–7.5%
Correlation Coefficient		0.92

There is strong correlation because there is close degree of co-movement in the returns and the relationship is one of positive correlation because not only are the magnitudes of the changes in returns similar but the sign of the changes track each other, ie, when A is going up so is B, and when A is going down so is B.

Strong Positive Correlation



The chart plots these pairs of monthly values and a linear trend line (or linear regression) has been shown. In cases of high correlation, the points on the scatter graph will tend to be close to the trendline.

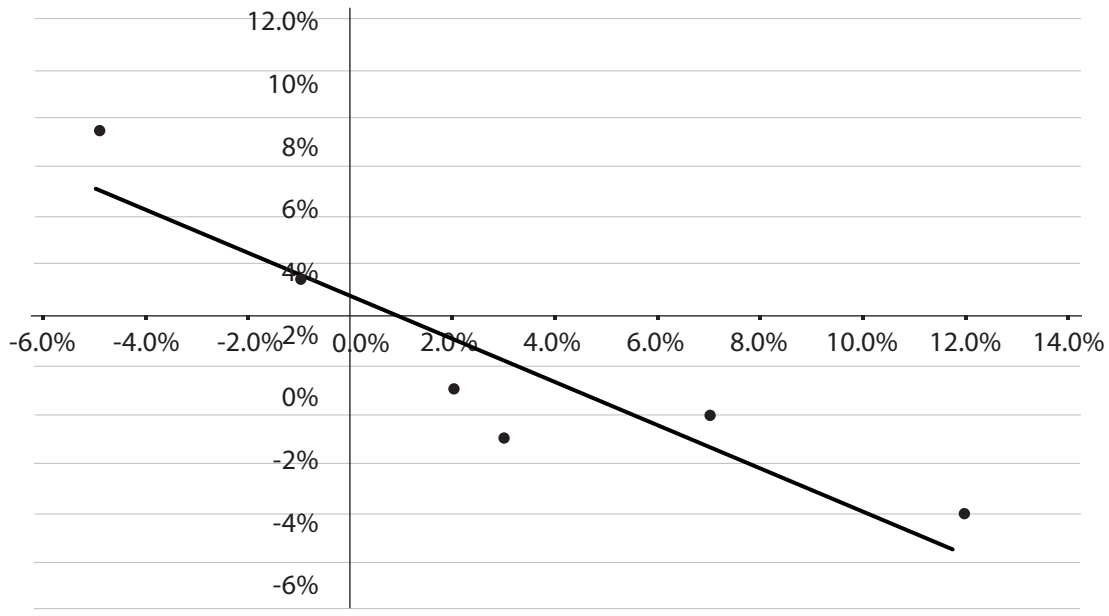
Strong Negative Correlation

The following table shows almost exactly the same returns as the previous chart except that the signs of the changes in returns have been reversed.

Month	Asset A Return	Asset B Return
1	2.0%	–3.0%
2	3.0%	–5.0%
3	–1.0%	1.5%
4	12.0%	–8.0%
5	7.0%	–4.0%
6	–5.0%	7.5%
Correlation Coefficient		–0.92 (rounded to 2dp)

The magnitudes of the changes have not been changed, which has also resulted in high correlation of the values, but this time there is an inverse relationship between the returns of A and B. For example, when, in month 6, A has a negative return of 5%, the return for B is positive 7.5%.

Strong Negative Correlation



The chart reveals that the relationship is one of strong correlation in that most of the points are close to the trendline but that this line is downward-sloping and also that the coefficient of correlation is –0.92. This is an example of a strong negative correlation.

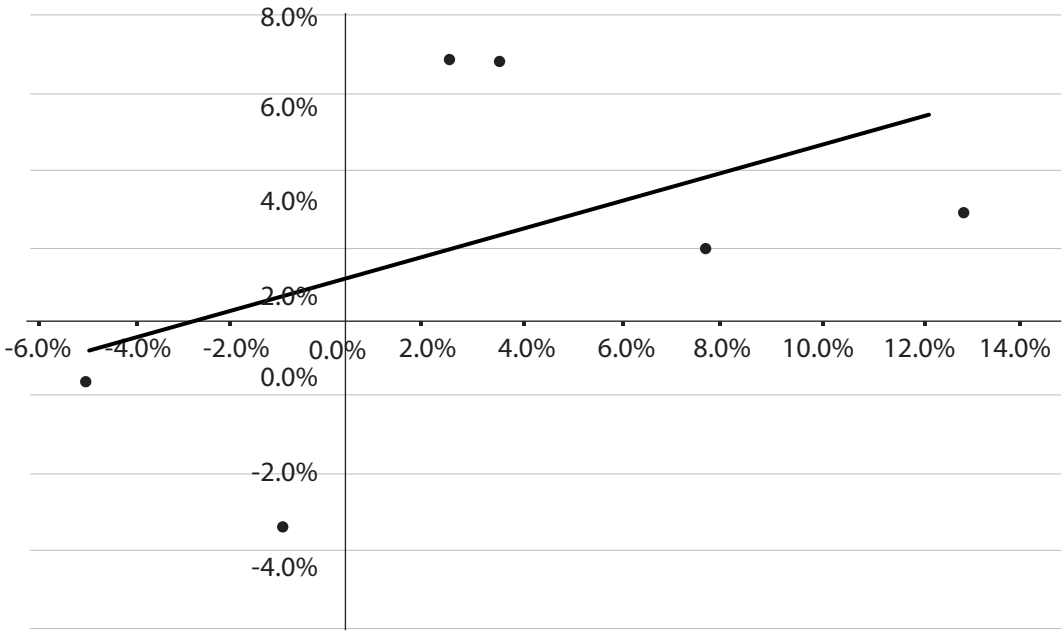
Weak Positive Correlation

The following table shows data for two assets where there is a much weaker correlation.

Month	Asset A Return	Asset B Return
1	2.0%	7.0%
2	3.0%	7.0%
3	–1.0%	–5.5%
4	12.0%	3.0%
5	7.0%	2.0%
6	–5.0%	–1.5%
Correlation Coefficient		0.43

The returns above show that there is much weaker correlation between the returns of assets A and B, as expressed in the lower coefficient value of 0.43. The relationship is still one of positive correlation, but the strength of the association is weaker. Diagrammatically, this can be seen on the scatter graph by the fact that the distances from each point of data are much further away from the trendline than seen in the previous two diagrams.

Weak Positive Correlation



Diversification

The explanation of correlation given above should help to guide our intuitions with respect to the benefits of diversification and how they follow the observed correlations seen above.

In the first case above of high positive correlation, ie, 0.92, it can be stated that to a large degree the performance of the two assets track each other, or experience the same degree of change and movement, to an extent of about 92%. A portfolio with equal amounts of asset A and B in it will have a tendency to perform not dissimilarly from a portfolio which has either 100% A or 100% B in it.

Next, consider a portfolio which holds 50% of assets A and B but where the returns were highly negatively correlated, ie, –0.92 as above. The issue is that the inverse nature of the asset's returns will tend to cancel each other out. As a position in asset A was improving and contributing profit towards the overall portfolio, this gain would be almost entirely (approximately 90%) offset by a corresponding loss in asset B.

From this can be inferred the simple notion that diversification will be better achieved when the degree of correlation is lower, albeit subject to further refinements. The relationship depicted where the degree of correlation is 0.13 is the more promising to investigate for the purposes of diversification, because there is a lower matching of the returns and more likelihood that gains in one will not very closely resemble (either directly or inversely) the returns in the other asset.

The benefits of diversification are to be found in having a more heterogeneous collection of assets, some of which may move upwards in respect to economic developments and some of which may move sideways or downwards. From a diversification perspective, it can be demonstrated that the weaker the correlation between the two assets, the greater the degree of diversification.

3.3.2 Hedging and Immunisation

The risks that are inevitable when investing in shares, bonds and money market instruments can be mitigated, but not entirely, removed by entering into 'hedging'. Hedging and immunisation is discussed further in chapter 5.

Hedging

Hedging can be difficult to implement and becomes mathematically intensive especially where the investment portfolio contains complex instruments.

Also hedging strategies will have a cost that inevitably impacts investment performance.

Hedging is usually achieved by using derivatives such as options, futures and **forwards**.

- Buying put options on investments held will enable the investor to remove the risk of a fall in value, but the investor will have to pay a premium to buy the options.
- Futures, such as stock index futures, as seen below, can be used to hedge against equity prices falling – but the future will remove any upside as well as downside.
- Forwards, such as currency forwards, could be used to eliminate exchange-rate risk – but, like futures, the upside potential will be lost in order to hedge against the downside risk.

Immunisation

In brief, immunisation is a passive management technique employed by those bond portfolio managers with a known future liability to meet. An immunised bond portfolio is one that is insulated from the effect of future interest rate changes.

Immunisation can be performed by using either of two techniques: cash matching or duration-based immunisation.

- Cash matching involves constructing a bond portfolio, whose **coupon** and redemption payment cash flows are synchronised to match those of the liabilities to be met.
- Duration-based immunisation involves constructing a bond portfolio with the same initial value as the present value of the liability it is designed to meet and the same duration as this liability.

This is further discussed in chapter 5.

3.3.3 Active and Passive Management Strategies

Active and passive management strategies are considered in more detail in the next chapter so, for the moment, we will restrict coverage to a general explanation of both types and the linkage to portfolio theory.

Active Management

Active fund managers are those that use discretion as to the timing of investments and asset allocation decisions and may change the composition of a portfolio on a regular basis. The underlying assumption is that the fund manager's expertise will enhance the overall return of the fund.

Active fund management rests on the notion that markets are not correctly explained by the EMH and that mispricing of securities not only exists but that it can be identified and exploited.

- A skilful fund manager will be able to identify such opportunities and purchase or sell the mispriced security and derive a profit when the mispricing is eliminated.
- A less skilful manager may suffer from not recognising such mispricing or be poor at timing the asset allocation decisions.
- As a matter of fact, which is somewhat awkward for active fund managers, research has shown that the average fund manager will often underperform a simple index-tracking strategy.

Passive Management

Passive investment management aims to provide an appropriate level of return for a fund that is commensurate with a simple buy and hold strategy for a broad cross-section of the market.

- Passive management often takes the form of 'index tracking' in which the funds are simply used to replicate the constituents of a broad market index such as the FTSE 100 Index or the Standard & Poor's 500 Index in the US.
- More specialised tracker funds can also be linked to the performance of securities in emerging markets, and specific industry sectors.

- Increasingly, the proliferation of ETFs allows investors to purchase shares in a fund which trades actively on a major exchange and which provides exposure to certain kinds of securities and where the minimal management fees are incorporated into the actual price of the shares of the ETF.
- The benefit to an investor purchasing such exchange traded funds is that there is usually a high degree of liquidity, the asset values of the fund constituents as well as the price of the ETF shares is updated on a real-time basis and the costs for the packaging of the securities is minimal.

Passive fund management is consistent with the idea that markets are efficient and that no mispricing exists. If the EMH is an accurate account of the way that capital markets work, then there is no benefit to be had from active trading. Such trading will simply incur dealing and management costs for no benefit. Investors who do not believe that they can identify active fund managers whom they are confident can produce returns above the level of charges for active management, will often elect to invest in passive funds or index trackers.

3.3.4 Significance of Alpha and Beta

The terms alpha and beta in portfolios are measurements used by money and fund managers to assess performance of portfolios relative to associate portfolios. They are both risk calculations which portfolio managers use to consider and contrast with a portfolio's return.

Alpha and Beta	
Alpha	• Alpha refers to the active or excess return that an investment/portfolio yields which is greater than an index or benchmark representing broader market trends. • Active managers deliberately deviate from the benchmark portfolio compositions to deliver enhanced returns ('generate alpha'). • Strategies employed to beat the index may focus on particular risks, eg, tilts in the sector, coupon, maturity, credit quality or weightings changes to preferred issuers, while ensuring that the aggregated characteristics to the benchmark index are still preserved. • While the alpha measurement is often described as a single number in reality, it is illustrating the percentage of performance with relation to how a portfolio performed compared to a benchmark index. For example, an alpha of 2.5 shows the investment or portfolio exceeded its benchmark index by 2.5%.
Beta	• Beta refers to the measurement for volatility/systematic risk of a portfolio compared to the broader market as a whole. • The beta coefficient is an important piece of the CAPM. The beta value helps investors understand the level of risk they will be willing to take to achieve the return for taking said risk. • If the beta value is 1.0, the portfolio/investment price moves exactly as the market moves. A value less than 1.0 indicates the portfolio/investment is less volatile than the market whereas a value greater than 1.0 illustrates the portfolio/investment price will be more volatile than the market. Interpreting the values quantitatively, if a portfolio's beta is 1.3, the portfolio is considered to be 30% more volatile the market as a whole.

A caveat to the alpha and beta measurements is that they are both backward-looking risk ratios, therefore, it is crucial for portfolio managers to understand that any inference drawn from the values is simply a reflection of past performance and no assurance of future events.

As a diagnostic tool, the total risk of a portfolio is decomposed into systematic factors or beta risks from each one of the underlying asset classes in the portfolio. For example, in a blended portfolio of bonds and equities, the equity beta risk is measured along with the bond beta risk. Many research studies have shown that around 90% of the total risk of a portfolio can be attributed to the asset class beta risks. The remainder is the risk coming from the alpha risk. In risk-budgeting parlance, this is due to the selection of individual active managers.

After the risks have been decomposed further into alpha and beta components, we wish to understand the common interactions (correlations) on a pairwise fashion, between asset classes (beta to beta), managers (alpha to alpha) and between asset classes and managers (beta to alpha). Low correlation of returns is desired for diversification purposes. The analysis provides a powerful tool to identify the sources of return from both beta and alpha components, along with the risks. Then using powerful optimisation algorithms, it is possible to minimise the overall risk of a portfolio at any desired return level.

The main objective of the optimisation is to identify the best allocations by adjusting the asset classes (beta risk factors) or managers (alpha risk factors) or by replacing some of the assets and managers with alternatives available in the market. The optimisation procedure can introduce sets of constraints: maximum and minimum allocations to each asset class or manager within a target range.

3.4 Risk and Return Metrics

Learning Objective

4.3.3 Be able to apply risk and return metrics to the measurement of portfolio performance: time-weighted return; money-weighted return; holding period return; contributions to return/attribution analysis; relative return to index, benchmark or peer universe; risk-adjusted returns; uses of Treynor, Sharpe and Jensen ratios; value-at-risk

To calculate the performance of a fund requires firstly what constitutes the portfolio's return and then how that return can be calculated in such a way that accounts for the distorting effect of external cash flows into and out of the portfolio.

Three different methods used to measure portfolio performance include:

- Holding period return – sometimes referred to as total return.
- Money-weighted rate of return.
- Time-weighted rate of return.

Which method is used depends on whether we need to take account of the distorting effect of external cash flows into and out of the portfolio.

Risk adjusted returns refine these investment returns by measuring how much risk is involved in generating that return. Some of the key measures used are the Sharpe (section 3.4.5), Treynor (section 3.4.6), and Jensen (section 3.4.7) ratios

3.4.1 Total Return

Total return is a measure of investment performance that includes the change in price of the asset plus any other income (including dividends, interest and capital gains distributions). It is assumed that all income is reinvested over the period.

For any investment, there is a basic pattern which can be thought of at its simplest in the form of a cost/benefit analysis. There will be costs for making the investment, which could be a single one-off outlay at the inception, or a continuing obligation to fund further costs through the lifetime of the investment. In return, there will be a series of incoming cash flows which could be seen as the benefits side of the investment.

In its simplest form, the performance of a portfolio of investments can be measured by regarding all of the incoming cash flows in the form of dividends or coupon payments and also factor in capital growth (final market value less initial value) and express these items which could be called the total return as a percentage of the initial amount invested. This gives rise to the core concept of the holding-period return.

The calculation of total return is expressed as a percentage of the initial asset value.

Total Return or Holding Period Return

A formula for calculating total return or holding period return is:

$$R_{TR} = \frac{EMV - BMV}{BMV}$$

Where:

R_{TR} = total return
EMV = end market value
BMV – beginning market value

Alternatively, it can be expressed as:

$$R_p = \frac{(D + V_e - V_S)}{V_s} \times 100\%$$

Where:

R_p = holding-period return
D = any returns paid out from the investment/portfolio at the end of the period
V_S = the initial cost at the start of the holding period
V_e = the value of the investment at the end of the holding period

As a result, calculating total return is straightforward.

Example

If an investor's portfolio was valued at 250,000 at the beginning of the year and by the end, it was worth 262,500 and dividends of 5,000 had been received what is the total return on the portfolio?

$$R_{TR} = \frac{(1{,}200 + 50) - 1{,}000}{1{,}000} = \frac{250}{1{,}000} \times 100 = 25\% \text{ in six months}$$

Holding period return for Investment B:

$$R_{TR} = \frac{800 - 500}{500} = \frac{300}{500} \times 100 = 60\% \text{ in one year}$$

So the total return is the growth plus the dividends totalling 17,500 as a percentage of the starting value. In percentage terms, the total return was 7%.

By calculating the percentage holding-period return for any investment it becomes possible to compare the relative performance of a variety of investments of different sizes and with different objectives and characteristics.

Comparison of Two Investments

Investment A costs $1,000 and at the end of six months returns $50, before being sold for $1,200. How can it be compared with Investment B, bought at $500, held for one year and then sold for $800 with no income paid out?

Holding period return for Investment A:

$$R_{TR} = \frac{(1{,}200 + 50) - 1{,}000}{1{,}000} = \frac{250}{1{,}000} \times 100 = 25\% \text{ in six months}$$

Holding period return for Investment B:

$$R_{TR} = \frac{800 - 500}{500} = \frac{300}{500} \times 100 = 60\% \text{ in one year}$$

The holding-period returns of A and B are not yet directly comparable, since B was invested for twice as long as A. When A was sold, the proceeds could have been reinvested for another six months, but we do not know what return would have been available to the investor at that time. To compare the returns, they must be for a standard period and this requires an annualised holding period return to be calculated.

Annualised Holding Period Return

To convert the holding period return for investment B, we need to annualise the return as follows:

$$\text{Annualised return} = (1+ r)^{n} - 1 = (1+0.25)^{2} - 1 = 1.5625 - 1 = 0.5625 \text{ or } 56.25\% \text{ pa}$$

This return of 56.25% can then be compared to the return of Investment B which is already annualised.

As a result of converting both returns to a common base of an annual return there is now a standardised measure of return, the annualised holding-period return.

To calculate the annualised return of an investment that has been held for a number of years we can use this formula:

$$\text{Annualised return} = (1+ \text{total return})^{1 \div \text{Time (years)}} - 1$$

So, if you have held an investment that cost $1,000 for a period of three years, received dividends over the period of $50 and it is currently valued at $1,250 then the total return over the period is 30% and the annualised holding period return is:

$$\text{Annualised return} = (1 + 0.30)^{1 \div 3} - 1 = 1.091393 - 1 = 0.91393 \text{ or } 9.139\%$$

This simple kind of measurement is not useful when there is a need to factor into the calculation of the return significant cash inflows or outflows during the period. So, for example, the 7% return in the first example may seem attractive but what if 7,500 in cash had been added to the portfolio on the last day of the year? That would reduce the return to just 4% – (255,000+5,000/250,000). What would happen if funds were regularly added and withdrawn during the year? Simply using total return would not provide a useable rate of return and so we need to look at calculation methods that can adjust for this.

3.4.2 Money-Weighted Rate of Return (MWRR)

The money-weighted rate of return (MWRR) is used to measure the performance of a fund that has had deposits and withdrawals during the period being measured. It is also referred to as the **internal rate of return (IRR)** of the fund.

MWRR Formula

The MWRR formula is the rate of return that solves the following:

$$MV_1 = (MV_0 \times (1 + r)^m) + \{\text{Sum of } (CF_i \times 1 + r^{Li})\}$$

Where:

MV_1 = end portfolio value
MV_0 = beginning portfolio value
m = the number of days in the period
CF_i = cash flows
L(i) = number of days the cash inflow is included in the portfolio or the number of days that a cash outflow is absent

The MWRR, therefore, calculates the return on a portfolio as being equal to the sum of:

- the difference in the value of the portfolio at the end of the period and the value of the portfolio at the start of the period, plus
- any income or capital distributions made from the portfolio during that period.

The difference is then expressed as a percentage, or the MWRR.

One of the main drawbacks of this method is that it cannot be solved algebraically. To calculate the return is an iterative process and the return must be found through trial and error or **interpolation** to find the required discount factor that causes the NPV of all the cash flows to be equal to zero. At this point, the discount factor would then provide the MWRR.

As a result, it is a more time-consuming calculation than other methods. Due to the trial and error nature of the calculation, it is unlikely that you will see a problem in the exam that requires this method to be used. Instead, we need to consider a simpler way to calculate this which is shown in the following example.

Example

In simple terms, the MWRR equals:

$$\frac{\text{Value at the end of the period} - \text{Value at the beginning of the period} \pm \text{cashflows}}{\text{Value at the start of the period} \pm \text{cash flows adjusted for the number of months}}$$

So, the formula is:

$$\text{MWR} = \frac{(V1 - V_0) \pm Cf}{V_0 + \left(Cf \times \frac{n}{12}\right)}$$

Where:

V_0 = the value at the start of the period
V_1 = the value at the end of the period
Cf = the cash flows
n/12 = the number of months

If cash is added to the portfolio, it is a positive figure and will be subtracted from the returns in the numerator. If it is a withdrawal, it is a negative figure and has to be added back in to get the return. On the bottom line of the equation this logic is reversed as the fund had use of any capital injected for the balance of the year and lost the use of withdrawals for the remainder of the year.

Example

So, using this formula, let us assume that a portfolio was worth 100,000 (V_0) at the beginning of the year and 110,000 (V_1) at the end of December of that year. The transactions that took place during the year were a cash injection of 5,000 at the end of March and a cash withdrawal of 7,000 at the end of September to give a net cash outflow of 2,000.

The money weighted return can be seen to be:

$$\text{MWR} = \frac{110{,}000 - 100{,}000 + 2{,}000}{\left[100{,}000 + \left(5{,}000 \times \frac{9}{12}\right) + \left(-7{,}000 \times \frac{3}{12}\right)\right]}$$

So, on the top line 2,000 has been deducted as there has been a net cash outflow and on the bottom line, the cash injection is included for the nine months it was held and a proportion of the cash outflow of 7,000 is subtracted as it was lost for the final three months of the year.

So, the money weighted return equals:

$$\text{MWR} = \frac{110{,}000 - 100{,}000 + 2{,}000}{100{,}000 + 3{,}750 - 1{,}750} = \frac{12{,}000}{102{,}000} = 0.11765 \text{ multiplied by } 100 = 11.76\%$$

3.4.3 Time-Weighted Rate of Return (TWRR)

The time-weighted rate of return (TWRR) removes the impact of cash flows on the rate of return calculation.

The TWRR is established by breaking the investment period into a series of sub-periods. A sub-period is created whenever there is a movement of capital into or out of the fund. Immediately prior to this point, a portfolio valuation must be obtained to ensure that the rate of return is not distorted by the size and timing of the cash flow.

The TWRR is calculated by compounding the rate of return for each of these individual sub-periods, applying an equal weight to each sub-period in the process. This is known as unitised fund performance.

TWRR Formula

The formula for TWRR is:

$$TWWR = \{(1 + R_{SP1})(1 + R_{SP2}) \ldots \ldots (1 + R_{SPn})\} - 1$$

Where SPn equals the percentage return during a sub-period.

This can be seen in the following example.

Example

A portfolio is valued at 1,000 at the beginning of October and grows in value to 1,100 by 15 October. It receives a cash inflow of 215 on 16 October and on 31 October is valued at 1,500.

Using TWRR, a percentage return is calculated for each separate period as follows:

$$\text{Sub – period 1: } r = \frac{(1{,}100 - 1{,}000)}{1{,}000} = 0.1 = 10\%$$

$$\text{Sub – period 2: } r = \frac{1{,}500 - (1{,}100 + £215)}{1{,}315} = \frac{185}{1{,}315} = 0.140684 = 14.0684\%$$

The returns for each sub-period are then linked to produce the TWRR.

$$TWWR = (1 + 0.10) \times (1 + 0.140684) = 1.2551 - 1 = 25.475\%$$

3.4.4 MWRR versus TWRR

The primary difference between these two calculation methods is that MWRR assumes that exactly the same rate of return is earned during each sub-period, while TWRR, on the other hand, considers the number of days invested when each potentially different sub-period return is calculated.

MWRR vs. TWRR		
	MWRR	TWRR
Advantages	• It is appropriate where the investment manager has control over the timing and size of cash inflows and outflows. • It only requires a valuation at the start and end of the period.	• It is unaffected by external cash flow activity and so correctly reflects the return that an investor would have received if they invested at the start of the period. • Most investment managers have little control over the size and timings of cash flows and so using a rate of return that is not influenced by them is more appropriate.
Disadvantages	• It can be distorted by the size and timing of external cash flows. • If a manager has little or no control over cash flows, it is not a suitable measure to evaluate portfolio performance.	• Valuations are required on every day when an external cash flow takes place meaning practically that daily valuations are required. • Daily valuations are administratively more expensive and prone to errors.

In many cases, the differences between MWRR and TWRR will be relatively small but in certain circumstances wide variations can occur. For example, the MWRR will change dramatically if a large cash flow is received or paid near the beginning as opposed to near the end of the measurement period, while TWRR rectifies this by defining periods according to cash flows.

As a result, TWRR is more widely used. GIPS, the Global Investment Performance Standards, require the use of a TWRR to calculate returns.

3.4.5 Sharpe Ratio

A ratio which is considered the most widely used by portfolio managers to benchmark their performance is the Sharpe ratio. Named after the Emeritus Professor of Finance at Stanford University, William Sharpe is a Nobel laureate in economics and devised the measure.

The Sharpe ratio measures the return over and above the risk-free interest rate from an undiversified equity portfolio for each unit of risk assumed by the portfolio: risk being measured by the standard deviation of the portfolio's returns.

The ratio is expressed as follows:

$$\text{Sharpe ratio} = \frac{R_A - R_F}{\sigma_A}$$

Where:

R_A = average return on the account
R_F = average risk-free return
σ_A = standard deviation of account returns

A simpler way of expressing the formula is to deduct the risk-free rate of return from the compounded annual growth rate (CAGR) and divide the result by the annualised standard deviation of the returns. So, the formula is: [CAGR – RFR]/Annualised Standard Deviation of Returns.

Another approach which differs slightly is to deduct the average monthly return risk-free rate from the average monthly return and divide the result by the monthly standard deviation of the return. Once that figure is obtained the result is again multiplied by the square root of 12. So, the formula is:

{[Average Monthly Return – Average RFR] / STD of Monthly Returns x $12^{0.5}$}.

The higher the Sharpe ratio, the better the risk-adjusted performance of the portfolio and the greater the implied level of active management skill. The Sharpe ratio provides an objective measure of the relative performance of two similarly undiversified portfolios.

The assumption behind the calculation, and the reason why the standard deviation is used as the denominator to the equation, is that, since investors prefer a smooth ride to a bumpy one, the higher the standard deviation, the lower the Sharpe ratio will be. Accordingly, high Sharpe ratios are to be preferred and positive values are obviously better than negative values.

Many analysts compute the Sharpe ratio using arithmetic returns. However, the **geometric mean** (calculated through the multiplication of values together then divisible by the square root) is a more accurate measure of average performance for time series data. For example, if one has returns of +50% and –50% in two periods, the arithmetic mean is zero. This does not correctly reflect the fact that 100 became 150 and then 75. On the other hand, the geometric mean which is –13.4%, is the correct measure to use. For investment returns in the 10–15% range, the arithmetic returns are about 2% above the geometric returns.

There are two other factors relating to the simplicity of the Sharpe ratio formula.

- Since the denominator of the formula is the standard deviation of the returns, the ratio becomes numerically very unstable at extremes, or in other words when the denominator is close to zero.
- The second problem surrounds the sequence of returns and the different equity curves associated with them. An equity curve tracks the actual rise and fall of equity in a fund or traces out the development through time of the profit and loss. Significantly, different equity curves in a portfolio will not be captured by the mean and standard deviations when looked at retroactively to calculate the Sharpe ratio. Subsequently, depending on the exact time frame of reference, the Sharpe ratio is the same in all three instances – the actual sequence of returns, an ascending sort of those same returns and also a descending sort of the sequence. The Sharpe ratio is, therefore, insensitive to the clustering of returns.

The second limitation is very significant to investors because the value is seriously limited because an investor will be concerned with extreme equity curves that could occur if there were a cluster of losing months in a returns schedule. Through the Sharpe ratio's calculation mode that underlies averages and standard deviations, this type of clustering of losing months will no longer be apparent on a retrospective basis, although at the time the volatility would have felt much worse than the Sharpe ratio suggests.

3.4.6 Treynor Ratio

The Treynor ratio is a measurement of the returns earned in excess of that which could have been earned on a riskless investment such as a Treasury bill.

The Treynor ratio is sometimes called reward-to-volatility ratio, as it relates the excess return over the risk-free rate to the additional risk taken as measured by the beta of the fund or portfolio. As the portfolio's return would have been generated only by the systematic risk it had assumed, the Treynor ratio, therefore, divides the portfolio's return over and above the risk-free interest rate by its CAPM beta.

The ratio is expressed as follows:

$$\text{Treynor ratio} = \frac{R_A - R_F}{ß_A}$$

Where:

R_A = average return on the account
R_F = average risk-free return
β_A = standard deviation of account returns (the portfolio's beta)

The Treynor ratio takes a similar approach to the Sharpe ratio but is calculated for a well-diversified equity portfolio and is used to compare performance to other portfolios.

Once again, the higher the ratio, the greater the implied level of active management skill.

3.4.7 Jensen Measure

The Jensen measure of risk-adjusted equity portfolio returns is employed to evaluate the performance of a well-diversified portfolio against a CAPM benchmark with the same level of systematic risk as that assumed by the portfolio.

The ratio is expressed as follows.

$$\text{Jensen measure} = RA - \{R_F + ß_A \times (R_M - R_F)]$$

Where:

R_A = average return on the account
R_F = average risk-free return
β_A = standard deviation of account returns (the portfolio's beta)
R_M = average market return

It can also be more simply expressed as – (Return on the Portfolio – Return predicted by CAPM).

The extent of any outperformance or underperformance is known as Jensen's alpha. Michael Cole Jensen who holds the position of Jesse Isidor Straus Professor of Business Administration, Emeritus at Harvard University derived the measure. He is also the founder and editor of the Journal of Financial Economics.

Jensen's measure is one of the ways to determine if a portfolio is earning the proper return for its level of risk. This metric of return is sometimes referred to as simply 'alpha'. It measures how much of the portfolio's rate of return is attributable to the manager's ability to deliver above-average returns, adjusted for market risk. The higher the ratio, the greater the risk-adjusted returns are. A portfolio with a positive excess return will have a positive alpha whereas consistent negative excess return gives a negative alpha.

The Jensen measure establishes whether the portfolio has performed in line with its CAPM benchmark and, therefore, lies on the Security Market Line (SML) or whether it has outperformed or underperformed the benchmark and is, therefore, positioned above or below the SML.

- A portfolio that generates a positive alpha would plot above the SML.
- A portfolio that generates a zero alpha would plot on the SML.
- A portfolio that generates a negative alpha would plot below the SML.

A criticism of the Jensen measure can be given by advocates for the EMH. They argue that any portfolio manager's excess returns derive from luck or random chance rather than skill because the market has already priced in all available information it is said to be efficient and accurately priced.

3.4.8 Information Ratio

The information ratio is often used to gauge the skill of a fund manager, as it measures the expected active return of the manager's portfolio divided by the amount of risk that the manager takes relative to the benchmark.

So, the information ratio compares the excess return achieved by a fund over a benchmark portfolio to the fund's tracking error.

Its tracking error is calculated as the standard deviation of excess returns from the benchmark. The tracking error gives us an estimate of the risks that the fund manager takes in deviating from the benchmark.

The ratio is expressed as follows.

$$\text{Information ratio} = \frac{R_A - R_B}{\sigma_{A-B}} \quad \text{or} \quad \frac{\text{Expected value of excess returns}}{\text{Standard deviation of excess returns}}$$

Where:

R_A = average return on the account
R_B = benchmark return
σ_{A-B} = standard deviation of excess returns as measured by the difference between account and benchmark returns

A fund's performance may deviate from the benchmark due to the fund managers' decisions concerning asset weighting. If the fund outperforms, the ratio will be positive and if it underperforms it will be negative. A high information ratio is, therefore, a sign of a successful fund manager.

3.4.9 Value at Risk

To measure the degree of financial or market risk being endured within a firm or an investment, we can use value at risk (VaR). It is a widely used risk measure of the risk of loss on a particular portfolio of financial instruments.

For the given portfolio, time horizon, and probability, the VAR is defined as a threshold loss value. This assumes mark-to-market pricing, normal markets and no trading within the portfolio. VAR is measured in three components:

1. The amount of potential loss.
2. The time frame.
3. The probability that amount of loss will happen.

In simple terms, VaR expresses the maximum loss that can occur with a specified confidence over a specified period. Because there is uncertainty about how much could be lost over the specified time horizon, the VaR measure includes the level of confidence that the specified loss will not be exceeded.

When using VaR, we usually make the following statement: 'I am 95% confident there will be a loss of not more than Y in n days'. Rephrasing the above, Y is the maximum loss which can occur with 95% confidence over a holding period of n days. For example, if a portfolio's one-week VaR is stated as $1 million in 95 weeks out of 100, then the portfolio is predicted to lose less than $1 million at the 95% confidence level. Of course, there is a 5% chance that the loss will be greater than Y.

The amount of money, Y, that has been stated is the VaR of the portfolio. It depends on two parameters: the time horizon (n days) and the confidence level. It is the loss level over n days that has a probability of 5% (100–95%) of being exceeded.

3.5 Historical Performance and Future Investment Strategies

One of the most frequently quoted investment warnings is that 'past performance is not a guide to future performance' yet analysing past performance is a key input to asset allocation and portfolio construction.

As we saw earlier, MPT and subsequent theories seek to maximise a portfolio's expected return for a certain amount of risk – or to minimise risk for a certain amount of return – through the careful selection of various assets. The idea is that successful diversification leads to an array of investments whose risk collectively is lower than that of any component asset individually. These all depend on the analysis of past performance, and it is rather ironic that this widely used methodology is apparently in contradiction of the widely quoted investment warning.

It is important to understand, therefore, the difference between these seemingly contradictory statements.

- Investing is a long-term strategy and over time private investors who stay invested and ride out short-term market volatility have been rewarded with returns over the longer term. Those who try to time the market or react and sell when markets fall generally have not.
- Successful long-term investment, however, depends on using an analysis of past performance and the correlation between assets in conjunction with projections of the impact of economic and other changes, to determine the right asset allocation to deploy going forward.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. What factors influence unsystematic risk?
   Answer reference: Section 1.1.1

2. Under the Capital Asset Pricing Model (CAPM), if a stock has a beta of 1.2, what does this indicate?
   Answer reference: Section 1.2

3. Explain why advocates of the efficient markets hypothesis (EMH) favour a passive approach to portfolio management rather than an active one.
   Answer reference: Section 1.3

4. A client needs $10,000 in five years' time. How much needs to be invested today if a return of 5% pa can be achieved over the period?
   Answer reference: Section 2.2.1

5. $10,000 is invested in a fixed-term account for three years at a fixed rate of 3% pa payable quarterly. If interest is left in the account what will be the balance of the account at the end of the term?
   Answer reference: Section 2.3.1

6. If the returns of two assets have a correlation coefficient of 0.8 and are combined in equal proportions in Portfolio A, and two other assets with returns which have a correlation coefficient of 0.3 are similarly placed in Portfolio B, which portfolio would you expect to exhibit the most diversification?
   Answer reference: Sections 3.2.4

7. We can summarise the relationship between two variables using bivariate linear regression. What is shown on the x and y axes?
   Answer reference: Section 3.3.1

8. What type of investment management technique is immunisation?
   Answer reference: Section 3.3.2

9. A portfolio was worth $100,000 at the beginning of the year and $106,000 at the end of December of that year. The transactions that took place during the year were a cash injection of $2,000 at the end of March and a cash withdrawal of $3,000 at the end of September. What was the money-weighted rate of return (MWRR)?
   Answer reference: Section 3.4.2

10. What does the Sharpe ratio of a fund indicate?
    Answer reference: Section 3.4.5

Chapter Five

Portfolio Construction

1. **Asset Allocation** 315
2. **Investment Strategies** 337
3. **Market Information and Research** 354
4. **Factors Influencing Markets** 371

This syllabus area will provide approximately 10 of the 80 examination questions

Having looked at risk and return and modern portfolio theory, we can now turn to consider the factors involved in portfolio construction and in particular the role of asset allocation and the choice of different investment strategies.

1. Asset Allocation

1.1 Principles of Asset Allocation

Learning Objective

5.2.3 Be able to evaluate the key approaches to investment allocation and portfolio diversification for bond, equity and balanced portfolios: asset class; geographical area; currency; issuer; sector; maturity

Asset allocation is the process of dividing your investments between different assets – such as cash, bonds, property, equities and alternative investments – in order to spread the risk of investing though diversification.

Asset allocation is important for investors as the inclusion of instruments with returns which move up and down during different market conditions allows for protection against major losses. For example, one investment instrument which generates positive returns during certain market conditions may be different for another instrument during the same market conditions. If an investor invests in more than one category of asset, the risk of loss is reduced and portfolio returns are likely to be smoother. Determining asset allocation can be viewed as more important than which individual assets are purchased.

Diversification and asset allocation share a common theme. Asset allocation is a form of diversification whereby investments are diversified among asset classes. However, choosing an asset allocation method for a portfolio will not necessarily diversify it; whether the portfolio is diversified or not will depend upon how the money is allocated among different types of investments.

What constitutes the right asset allocation for an investor depends largely on their time horizon and ability to tolerate risk.

- **Time horizon** – this is the expected time period an investor will be investing to achieve a financial objective. Typically, investors with greater time horizons feel more willing to take on riskier investments because they can wait out economic cycles and the likelihood of the boom and bust cycle. On the other hand, investors who have limited time horizons are likely to take on less risky investments.
- **Risk tolerance** – the ability and enthusiasm for the loss of original investment in exchange for greater potential returns. Investors with high-risk tolerance are usually more willing to risk losing money to secure better results. Contrarily, low-risk investors seek out investments which tend to preserve the original investment value.

From time to time, it will be necessary to rebalance a portfolio to bring the portfolio back in line with the intended asset allocation mix. This is necessary because over time, the amount invested in certain securities, sectors or asset classes may become out of alignment with the investment goals due to the relative performance of each component in the asset allocation mix. This can be achieved by reducing the amount invested in overweight asset classes or securities, buying new investments in underweight sectors or allocating new money to underweight sectors to bring the portfolio back into balance. By rebalancing, the portfolio does not overemphasise one or more asset class and returns the portfolio to the intended level of risk.

The choice of correct asset allocation needs to be kept under review as the correct allocation will change as the investor's circumstances change. The most common reason for changing asset allocation is a change in the investor's time horizon. In other words, as they get closer to their investment goal, they are likely to need to change their asset allocation. For example, most people investing for retirement hold fewer shares and more bonds and cash equivalents as they get closer to retirement age. Investors may also need to change their asset allocation if there is a change in their risk tolerance, financial situation, or the financial goal itself.

A diversified portfolio should be diversified at two levels: between and within asset classes. So, in addition to allocating investments among cash, bonds, equities and possibly other asset categories, the investor also needs to spread out your investments within each asset category, for instance, you would not hold just one equity in the asset class. The key is to identify investments in segments of each asset category that may perform differently under different market conditions.

Diversification within the portfolio can be achieved in a number of ways including exposure to different:

- asset classes
- sectors
- geographical areas
- currencies, and
- maturities.

1.1.1 Asset Classes and Sectors

Asset allocation involves considering the big picture first by assessing the prospects for each of the main asset classes within each of the world's major investment regions against the backdrop of the world economic, political and social environment.

Once asset allocation has been decided upon, the next step is to consider the prospects for those sectors within the various asset classes, eg, equities, bonds, commodities and derivatives. Sector selection decisions in equity markets are usually made with reference to the weighting each sector assumes within the index against which the performance in that market is to be assessed.

The final stage of the process is deciding upon which specific issuers should be selected within the favoured sectors. A combination of fundamental and technical analysis will typically be used in arriving at the final decision. The investment strategy adopted will also need to determine whether this asset allocation is achieved using passive or active investment management.

Finally, a decision on whether to hedge market and/or currency risks must be taken. Over the long term, academic studies have concluded that the skills in decision-making with regard to asset allocation can account for over 90% of the variation in returns for pension fund managers.

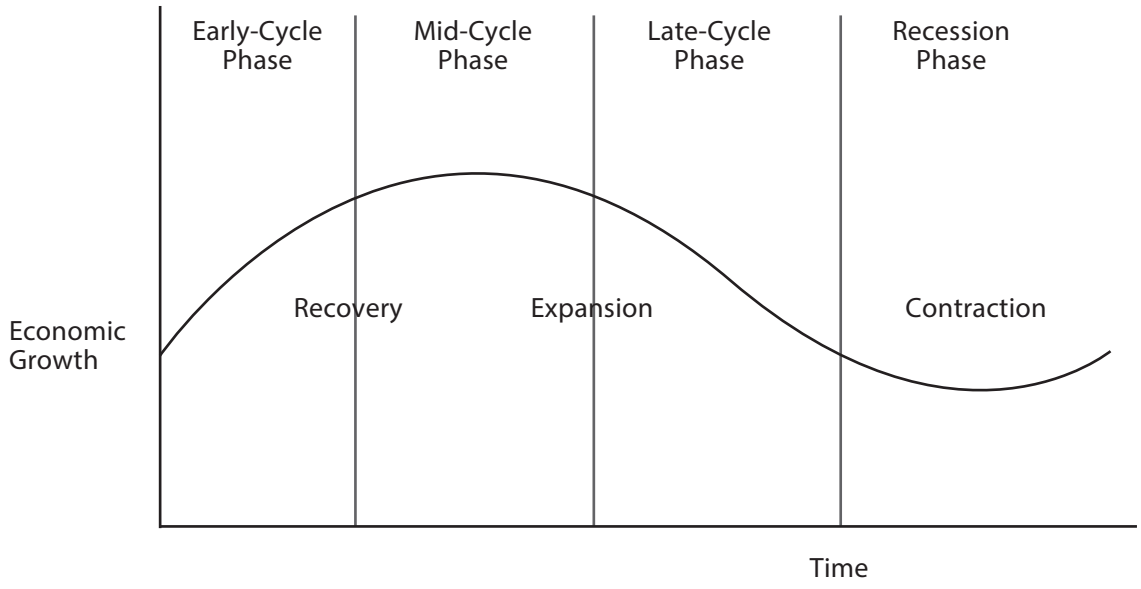
Business Cycle

Given the strong interrelationship between economics and investment, the asset class and sector selection process are also heavily influenced by economic factors, notably where in the economic cycle the economy is currently positioned.

Although every business cycle is different, historical analysis suggests that the cyclical fluctuations in the economy have tended to follow similar patterns and that performance across asset categories typically rotates in line with different phases of the business cycle.

Four distinct phases of a typical business cycle are shown in the following graph along with their usual characteristics. Note that this is a typical picture of the business cycle and there is not always a progression from one phase to the next as there have been cycles where the economy skipped a phase or retraced its steps to an earlier one.

Business Cycle



The typical characteristics of each phase and the general implications for different asset classes and sectors are illustrated in the following table.

Early-cycle phase	• Characterised by a sharp recovery from recession marked by a change to positive economic activity, then an accelerating growth rate. Credit conditions ease creating a healthy environment for profit growth. • This initial phase is favourable for equities generally and particularly for pro-cyclical stocks and markets. A general switch to equities takes place as the reversal pattern is validated. • In terms of sectors, those that are the most sensitive to a decline in interest rates and a decline in energy prices are the first to pick up. This is the case of the banks and more generally financials, as well as stocks related to residential construction, transport and automobile stocks. • Government bonds underperform equities, even if their prices do not necessarily decline. Corporate bonds, which react positively to the reduction in the default risk often rally before equities.
Mid-cycle phase	• Characterised by a positive but more moderate rate of growth. Economic activity gains momentum and inventories and sales grow against a relatively neutral monetary policy backdrop. • This phase is still favourable for equities as the rise becomes widespread. • Investment-related stocks and mining companies and more generally companies related to raw materials often end up outperforming due to the general increase in commodity prices. • Generally, safe haven stocks underperform. This is the worst phase for government bonds. Within fixed-income markets, corporate bonds with higher yields remain attractive longer while company default rates tend to diminish.
Late-cycle phase	• This third phase prepares for the reversal of the cycle which is mature and is characterised by economic activity peaking and economic growth slowing. It may see overheating leading to inflationary pressures and a tight labour market restricts profit margins. • Volatility tends to be extremely low and the performance of equities begins to decline. Small-cap stocks suffer more than large-cap stocks, but more defensive sectors start to outperform as they catch up with general market rises. • The yield curve may be relatively flat or even inverted; government bond yields may be hesitant but company default rates are at their lowest for years. • In terms of allocation, a switch at some point to money market investments and inflation-indexed bonds may be advisable while waiting to see how the cycle develops.

Recession phase	• This features a contraction in economic activity in which corporate profits decline and credit conditions tighten. • The most risky assets decline or even collapse. These include industrial commodities, high-yield bonds, convertibles, equity markets generally and, in particular, less liquid stocks and stocks that were and whose valuation has become too generous. • During this phase, it is often difficult to be very constructive since volatility often rises significantly, making hedging portfolios or maintaining a defensive allocation appropriate. • Exposure to money market instruments is gradually reduced in favour of government bonds. Equities will only be gradually re-weighted as markets look for advance indicators that the transition to the next phase is due.

This is a stylised description of the business cycle and each cycle may follow a different pattern or one phase may last longer or be shorter than expected. Moreover, it does not provide for any exogenous shocks that spark a sudden flight away from risky assets that change the course that the cycle takes. Additionally, identifying where an economy is positioned in the cycle and the extent to which sectors and stocks are geared to the cycle is challenging.

Asset-Allocation Decisions

Within larger portfolio management organisations, asset allocation and top-down strategy is usually determined on a monthly basis by an asset-allocation committee. The committee draws upon forecasts of risk and return for each asset class and correlations between these returns. It is at this stage of the top-down process that quantitative models are often used, in conjunction with more conventional fundamental analysis, to assist in determining which geographical areas and asset classes are most likely to produce the most attractive risk-adjusted returns taking full account of the client's mandate.

Most asset-allocation decisions, whether for institutional or retail portfolios, are made with reference to a peer group median asset allocation. This is known as asset allocation by consensus and is undertaken to minimise the risk of underperforming the peer group. When deciding if and to what extent certain markets and asset classes should be over or underweighted, most fund managers set tracking error, or standard deviation of return parameters against peer group median asset allocations.

1.1.2 Geographical Area

Many investors wish to seek out opportunities in international markets and there are now many investment products available, including a wide range of exchange-traded funds (ETFs), which enable professional and retail investors to have exposure to specific geographical regions and even specific country funds.

A primary reason to invest in overseas markets is for diversification. More specifically, it is prudent to own assets in countries whose economies have different attributes than the domestic market of the investor for the following reasons:

- A service-based economy has different attributes than a commodity-based economy.
- Exporting surplus nations differ from importing surplus nations.
- Economies with large public deficits can be contrasted with those with large surpluses.

These different attributes can help to alleviate the coincidence of the timing of the economic cycles in these respective countries. In turn, this might result in the fact that the respective stock market cycles may be less likely to be largely correlated with the business cycle in the investor's domestic market.

Whatever countries are selected for inclusion in a portfolio strategy, they should be blended in consistently with the required attributes, for example:

- If one favours commodity-based economies one would want exposure to such countries as Australia, Canada, and South Africa.
- Another investor, who may want exposure to the semiconductor industry or computer hardware, might want to own a fund which specialises in South Korea or Taiwan or Asia, possibly excluding Japan.
- Some funds are structured in such a manner that one can have exposure to most of the Asian markets but not Japan, because its economy is considered by many investors to be a 'special case' based upon the massive decline in Japanese equities since 1990.

Many enthusiasts for investing in emerging markets such as the original BRICS nations (Brazil, Russia, India, China and South Africa) like to point to the much greater rate of economic growth in such nations compared to the rates currently seen in the US and most of Europe. While it is certainly the case that China and India, especially, have rates of GDP growth that Western countries are unlikely to see in the foreseeable future, it must also be recalled that when the banking crisis occurred in 2008 some of the hardest hit markets were the emerging markets. Investors should also be aware of political uncertainty with such countries.

Undoubtedly, exposure to emerging markets should be a part of most investment strategies, except for the risk averse, and in general terms, a good spread of assets across many geographical regions will provide a degree of diversification. But even this last comment needs to be qualified, as the degree of diversification appears from some correlation studies to be diminishing.

1.1.3 Currency

Foreign currencies are an asset class in their own right and not just as a medium of exchange for purchasing other assets. The more traditional approach when discussing currencies relate to the importance of hedging. Foreign currency risk can be reduced, though not completely eliminated, by employing hedging instruments or strategies such as:

- forward contracts
- back-to-back loans
- foreign currency options

- foreign currency futures, and
- currency swaps.

Some fund managers will hedge their foreign currency exposure by using forward currency contracts to limit risk and reduce volatility. However, this will depend on their mandate and investors need to be aware that not all funds are automatically hedged.

1.1.4 Issuer Selection

A bottom-up approach to asset allocation is one which focuses on the unique attractions of individual securities and the characteristics of the issuer.

As we saw in chapter 1, the considerations in the case of an equity investment would be the P/E multiple for the issuer, the P/E multiples for competitors, the rate of earnings growth, earnings per share and other financial ratios relating to profitability and gearing.

In the case of considering a bond purchase, the investor would want to examine the credit ratings reported by the major credit-rating agencies, the spreads between the issuer's bonds and other benchmarks such as government issues of similar maturity.

In addition, there are opportunistic factors to consider in evaluating the attractiveness of an individual issuer of securities. Although the health and prospects for the world economy and markets in general are taken into account, these are secondary to factors such as whether a particular company is a possible takeover target or is about to launch an innovative product, for instance.

1.1.5 Maturity

The ongoing fluctuation of interest rates poses a particular problem for fund managers with a portfolio of bonds because of re-investment risk. However, by using an approach based upon bond duration matching or immunisation, it is possible to maintain a steady return over a specific time horizon, irrespective of any changes in the interest rate.

In the case where there is a need to match a set of cash outflows, a bond portfolio with the same duration as the liabilities should be constructed. Duration matching or immunisation relies on the fact that two effects (price and reinvestment) are balanced at the point of duration, the weighted average life of the bond. The process of immunisation requires the fund manager to purchase a portfolio of bonds with a duration equal to the liabilities that need to be matched. Through immunisation, the fund manager can guarantee that the bond portfolio will earn the **gross redemption yield (GRY)**, since any alteration in capital value of the bonds will be balanced by the reinvestment gain or loss.

1.1.6 Diversified versus Concentrated Portfolios

The standard advice on investing is to diversify investments in order to reduce both risk and volatility. As we saw in chapter 4, modern portfolio theories focus on the need for diversification in order to reduce the risks involved in investing and so it is useful to review the advantages and disadvantages of diversified versus concentrated portfolios.

Diversified versus Concentrated Portfolios	
Diversified portfolios	• A diversified portfolio is one where the investor has a range of stocks or asset classes in order to manage the inevitable volatility and risk of holding riskier investments. • The advantage of a diversified portfolio is that by owning a range of assets, overall volatility and risk can be reduced. When investments in one asset class or sector perform poorly, other investments should perform relatively better to offset that poor performance, • The disadvantage, however, of diversification is that by reducing the overall level of risk, it may also reduce the potential for capital growth. The more extensively diversified an investment portfolio is, the more likely it is that the portfolio will produce average market investment returns.
Concentrated portfolios	• A concentrated portfolio is one where the investor holds a limited number of assets that they are expecting to perform better than the rest of the market and so achieve above average returns. • An advantage of a concentrated portfolio is that it increases potential reward by focusing on a manageable number of quality investments. • The disadvantage of this approach is that the concentration of investments inevitably increases the risk of poorly performing assets seriously affecting the investor's wealth.

The question underlying all of this is to what extent an investor should diversify their investment portfolio. Warren Buffet is famously quoted as saying '*Diversification may preserve wealth, but concentration builds wealth*'. He also makes the point though that this requires an ability to analyse and value businesses and that many people are not comfortable in doing that, in which case, there is nothing wrong in diversification for them.

Most investors are by their nature risk adverse, so diversification is an appropriate solution that meets their needs. Some investors, however, are by their nature risk-seekers and have the wealth to be able to afford the risks so a more focused approach may well be the correct solution for them. Perhaps where the two concepts meet is in the need for an appropriate level of diversification that meets the needs of the individual.

1.2 Asset Allocation Strategies

Learning Objective

5.2.4 Be able to evaluate the purpose, principles and processes of different asset allocation strategies: achievement of performance objectives; trade-off between risk and return; stochastic modelling; relationship with investment theory; active and passive management; strategic asset allocation (SAA); cyclical asset allocation; tactical asset allocation (TAA); constant weighted asset allocation; dynamic asset allocation; insured asset allocation; integrated asset allocation

The fundamental challenge for any asset allocation strategy is to reach decisions about the inevitable and inherent risks in holding different asset classes and the potential returns that will result from the assets selected.

The different approaches to asset allocation are considered below.

1.2.1 Strategic Asset Allocation (SAA)

Strategic asset allocation (SAA) is a portfolio strategy that involves setting target allocations for various asset classes and rebalancing periodically. The portfolio is rebalanced to the original allocations when they deviate significantly from the initial settings due to differing returns from the various assets.

At the SSA stage, the fund manager decides what proportion of the total portfolio to invest in broad asset categories such as shares, bonds, property and other alternative investments.

This involves a series of stages:

1. **Asset and Country Allocation**
   - Consider the big picture by assessing the prospects for each of the main asset classes within each of the world's major investment regions against the backdrop of the world economic, political and social environment.
2. **Sector Selection**
   - Consider the prospects for those sectors within the various asset classes. Sector selection decisions in equity markets are usually made with reference to the weighting each sector assumes within the index against which the performance in that market is to be assessed.
3. **Stock Selection**
   - Decide which specific stocks should be selected within the favoured sectors. A combination of fundamental and technical analysis will typically be used in arriving at the final decision.

The percentage of a portfolio invested in different asset classes will be varied to fit with the objectives and level of risk an investor chooses and so will take account of their time horizon, the acceptable level of loss they can bear financially and their need for income. Discretionary fund management firms operate a range of model portfolios that are designed to meet the needs of differing investors.

Within larger fund management organisations, asset allocation and top-down strategy is usually determined on a monthly basis by an asset-allocation committee. The committee draws upon forecasts of risk and return for each asset class and correlations between these returns.

It is at this stage of the top-down process that quantitative models are often used, in conjunction with more conventional fundamental analysis, to assist in determining which geographical areas and asset classes are most likely to produce the most attractive risk-adjusted returns taking full account of the client's mandate.

Most asset allocation decisions, whether for institutional or retail portfolios, are made with reference to the peer group median asset allocation. This is known as 'asset allocation by consensus' and is undertaken to minimise the risk of underperforming the peer group.

When deciding if, and to what extent, certain markets and asset classes should be over or under weighted, most fund managers set tracking error, or standard deviation of return parameters against peer group median asset allocations.

The investment strategy adopted will need to determine whether the asset allocation policy is achieved using passive or active management which is considered later.

SAA is usually combined with tactical asset allocation.

1.2.2 Tactical Asset Allocation (TAA)

Tactical asset allocation (TAA) is about making short-term changes to a portfolio's strategic asset allocation. It is based on the assumption that relative returns among asset classes will diverge temporarily from **equilibrium** levels, allowing the opportunity for excess returns.

It is a dynamic strategy that actively adjusts a portfolio's SAA based on short-term market forecasts. Its objective is to systematically exploit inefficiencies or temporary imbalances in values among different assets classes. It attempts to add value to the long-term asset allocation policy by overweighting those asset classes or sub-asset classes that are expected to outperform on a relative basis and underweighting those expected to underperform.

Market timing is an example of tactical asset allocation. It could involve the proportions of capital invested in any one asset class being set as a band, say, 10–20%. At any time, more capital can be allocated to one class to take it to the top of its range while another is reduced to the bottom of its range. These tactical moves away from the mid-points of the permitted range for each asset class may be implemented on a short-term basis.

The following table shows some simple examples of how a fund manager may make short-term and tactical adjustments to a portfolio to take advantage of expectations about the near-term outlook for the overall market and specific asset classes.

Tactical Strategies		
	Market Outlook	
	Bullish	Bearish
Fixed Income	• Increase exposure to longer duration bonds.	• Reduce exposure to longer duration bonds and shorten the duration of the portfolio.
Equities	• More exposure to higher beta stocks.	• Reduce exposure to higher beta stocks and moving to more defensive holdings.
Tactical strategies	• Where markets are buoyant this could involve adding exposure to emerging markets.	• If markets are expected to turn bearish, this could turn to a 'risk off' position involving eliminating the holdings altogether.
Derivatives	• Buy **call options** or go long stock futures.	• Buy put options or go short stock futures.

Implementing TAA strategies is complex and depends on the correct interpretation of financial and economic signals to predict performance and assign relative short-term **asset-class** weightings. Some examples are shown in the following table.

Tactical Asset Allocation Signals	
'Fed model' signals	• This involves comparing earnings yields to nominal bond yields to determine the relative attractiveness of equities over bonds. • The underlying notion is that stocks and bonds compete for the same investment funds and the higher returning asset class should be overweighted in the portfolio.
Macroeconomic signals	• This involves attempting to time the business cycle by taking advantage of variations in market risk premiums and firms' earnings. • This involves interpreting signals such as the term spread, the **credit spread**, unexpected inflation and industrial production. Business-cycle variables are typically implemented over intermediate time horizons.
Fundamental signals	• This involves using fundamental valuation metrics, such as dividend yield, book/market ratio, and P/E ratio, to determine the relative valuation of one share to another and take advantage of pricing anomalies.

Tactical Asset Allocation Signals	
Momentum signals	• These attempt to follow the short-term momentum in markets. Typical momentum signals include: technical indicators; earnings growth; and changes in trading volumes such as if the 50-day moving average crosses the 200-day moving average giving a buy or sell signal, depending on the direction of the lines. • When appropriately combined with fundamental or business-cycle signals, they can produce complementary strategies.
Sentiment signals	• These attempt to add value through a contrarian strategy that looks for extreme levels of sentiment, such as consumer confidence and margin borrowing, to identify deviations from equilibrium returns.

1.2.3 Constant Weighting Asset Allocation

Constant weighting asset allocation takes the SAA as its base, and as the value of assets moves, the portfolio is rebalanced to keep it in line with the strategic allocation. For example, if one asset is declining in value, you would purchase more of that asset; and if that asset value is increasing, you would sell it.

A common rule of thumb is that the portfolio should be rebalanced to its original mix when any given asset class moves more than 5% from its original value. This carries the potential drawback that rebalancing may be carried out too frequently.

1.2.4 Dynamic Asset Allocation

This is a more aggressive form of TAA whereby you are constantly adjusting your asset mix. For example, when equities are surging, you buy more stocks at the expense of other asset classes. The goal of dynamic asset allocation is the same as strategic asset allocation, but the means to accomplish it are very different.

With dynamic asset allocation you constantly adjust the mix of assets as markets rise and fall, and as the economy strengthens and weakens. With this strategy, you sell assets that are declining and purchase assets that are increasing, making dynamic asset allocation the polar opposite of a constant-weighting strategy. For example, if the stock market is showing weakness, you sell stocks in anticipation of further decreases; and if the market is strong, you purchase stocks in anticipation of continued market gains.

This is a strategy based on regular adjustment of the asset mix, as markets rise or fall and the economy enjoys growth or enters a recession. Dynamic asset allocation is the opposite of constant weighting in, that assets that are declining are sold, while those appreciating are bought – stocks would, therefore, be sold when it enters a '**bear market**' in anticipation of further decreases and bought when a '**bull market**' prevails in anticipation of further gains.

1.2.5 Insured Asset Allocation

This approach is suited to investors who are comfortable with only a low level of risk, but want the combination of active portfolio management and the safety of a guaranteed **floor**, below which the portfolio's value cannot fall.

It works by establishing a base portfolio value at the outset, below which the portfolio should not be allowed to fall. The investor exercises active management while the portfolio value remains above the base level. Should it fall back to the base value, the strategy switches to one of investing in risk-free assets in order to fix the base value and to allow time to review a re-allocation of assets, and possibly a complete change of investment strategy.

Insured asset allocation can take a formulaic approach, under which the lower the portfolio value falls so the proportion of risk-free assets increases – ultimately being entirely invested in risk-free assets should it decline to the base level. Alternatively, a portfolio insurance approach preserves the base capital through the use of put options and/or futures contracts.

Insured asset allocation may be suitable for risk-averse investors who desire a certain level of active management but appreciate the security of establishing a guaranteed floor below which the portfolio is not allowed to decline. For example, an investor who wishes to establish a minimum standard of living during retirement might find an insured asset allocation strategy ideally suited to their management goals.

1.2.6 Integrated Asset Allocation

With integrated asset allocation, both economic expectations and risk is utilised in establishing an asset mix. While other asset allocation strategies take into account future market returns, not all strategies take into account risk tolerance. An integrated approach considers expectations, changes in capital markets, and risk tolerance and incorporates strategic and tactical asset allocation into its approach.

This is the most complicated of the strategies and for that reason is best left to experienced investors and those who are familiar with trading strategies. This strategy creates an asset mix that is based on the investor's personal economic expectations, changes in capital markets, and risk tolerance. Essentially, it tries to optimise the investor's net worth and allocates their assets to accomplish that. A portfolio that is based on integrated asset allocation may have characteristics of dynamic asset allocation or constant-weight asset allocation, but not both at the same time.

1.2.7 Summary

One of the main advantages of asset allocation is its potential to improve the risk-reward trade off inherent in holding investments. A core objective of asset allocation is to increase the overall return of a portfolio for a given level of risk or to reduce the level of risk to a targeted level of return. A drawback of asset allocation is that it potentially means missing opportunities to participate fully in significant price gains in one of the main asset classes.

This leads us to look at when asset allocation works and the times when investment results may diverge widely from the intended strategy.

Advantages and Drawbacks of Asset Allocation	
Advantages	Asset allocation generally produces positive results when the following are present: • Asset allocation tends to add value when no single asset class dominates other asset classes year after year. Diversification can result in a return from those sectors that outperform balanced by those that underperform in one year and the reverse in another. • One of the fundamental assumptions of asset allocation is that many of the major asset classes do not all move in the same direction and at the same magnitude – in other words, there are low correlations. • With a well-selected asset allocation, the overall risk-return profile of the portfolio should be reasonably stable. • Frequent rebalancing activity, if conducted correctly, can take advantage of cyclical asset price shifts and avoid prematurely curbing exposure to sectors that are experiencing strong growth. • The investor or their investment managers have the right skills. The ultimate outcome of asset allocation depends heavily on the judgement and skill needed to correctly specify correct weightings and asset or stock selection.
Drawbacks	Under certain conditions, asset allocation may produce results that widely diverge from what is intended when some of the following conditions are present: • In times of unusual financial environments, one asset class may perform significantly better for some years. In other words, asset allocation relies on asset class valuations and returns reverting to their long-term average. • A fundamental assumption of asset allocation is the expectation that returns, risk and correlation will remain within the bounds of their historical performance and remain true over time. If the relationship breaks down, the result may diverge sharply from expected returns. • Correlations do not remain constant and at times correlations between asset classes move up or down together reducing the benefits of diversification. Events such as a financial crisis may see correlation compression where asset classes move downward at the same time precisely when investors might rely most on diversification. • The asset allocation process tends to not work well where small variations in the asset mix produce wide swings in expected outcomes. • Rebalancing needs to be undertaken in a nuanced manner and not mechanically, otherwise price shifts may lead to poorer results • Human errors and biases can result in excessive confidence or caution in asset allocation changes leading to lower returns or higher risk.

Wealth managers are presented with a range of assets that may be included in a portfolio and, therefore, require a strategy that will provide an appropriate mix of assets that is based on the required future performance and the extent to which the portfolio will be able to meet the individual's investment objectives.

As with all complex decisions involving judgments about risk and reward, there is no single procedure or strategy that provides the single best solution. A structured asset allocation process can, however, be seen as a series of stages as noted below:

1. Evaluation of the client's needs and attitude to risk.
2. Assumptions about the future expected returns, risk and correlation between asset classes.
3. Selecting the combination of assets that best match the investor's objectives and risk profile to give the minimum risk for the expected level of return.
4. Establishing a long-term or strategic asset allocation policy which reflects the optimal mix of assets.
5. Implementing some form of tactical asset allocation decisions against the broad guidelines of the strategic asset allocation policy.
6. Undertaking periodic rebalancing of the portfolio to bring it back into line with the strategic allocation framework taking into account tax and transactions costs.
7. From time to time, reviewing the strategic asset allocation policy to ensure its continued suitability for the investor's objectives and risk profile.

1.3 Mitigating Portfolio Risk

Learning Objective

5.2.1 Be able to assess the benefits and limitations of the main approaches used to mitigate portfolio risk: correlation; diversification vs concentration; active and passive strategies; currency hedging; guaranteed and absolute return strategies; hedging and immunisation strategies

1.3.1 Correlation and Diversification

As we saw earlier, from an investment perspective, the statistical notion of correlation is fundamental to portfolio theory.

The very simplest idea is that, if one is seeking diversification in the holdings of a portfolio, one would like to have, say, two assets where there is a low degree of association between the movements in price and returns of each asset. The degree of association can also be expressed in terms of the extent to which directional changes in each asset's returns, or their co-movement, are related.

The benefits of diversification are to be found in having a more heterogeneous collection of assets, some of which may move upwards in respect to economic developments and some of which may move sideways or downwards. From a diversification perspective, it can be demonstrated that the weaker the correlation between the two assets, the greater the degree of diversification.

1.3.2 Active and Passive Management Strategies

Active fund managers are those that use discretion as to the timing of investments and asset allocation decisions and may change the composition of a portfolio on a regular basis. The underlying assumption is that the fund manager's expertise will enhance the overall return of the fund.

Active fund management rests on the notion that markets are not correctly explained by the **efficient markets hypothesis (EMH)** (see chapter 4) and that mispricing of securities not only exists but that it can be identified and exploited.

- A skilful fund manager will be able to identify such opportunities and purchase or sell the mispriced security and derive a profit when the mispricing is eliminated.
- A less skilful manager may suffer from not recognising such mispricing or be poor at timing the asset allocation decisions.
- Research has shown that the average fund manager will often underperform a simple index-tracking strategy – this fact is somewhat awkward for active fund managers.

Passive investment management (explained further in section 2.3) aims to provide an appropriate level of return for a fund that is commensurate with a simple buy and hold strategy for a broad cross-section of the market.

- Passive management often takes the form of 'index tracking' in which the funds are simply used to replicate the constituents of a broad market index such as the FTSE 100 Index or the Standard & Poor's 500 Index in the US.
- More specialised tracker funds can also be linked to the performance of securities in emerging markets, and specific industry sectors.
- The benefit to an investor purchasing such ETFs is that there is usually a high degree of liquidity, the asset values of the fund constituents as well as the price of the ETF shares is updated on a real-time basis and the costs for the packaging of the securities is minimal.

Passive fund management (explained further in section 2.3) is consistent with the idea that markets are efficient and that no mispricing exists. If the EMH is an accurate account of the way that capital markets work, then there is no benefit to be had from active trading. Such trading will simply incur dealing and management costs for no benefit. Investors who do not believe that they can identify active fund managers whom they are confident can produce returns above the level of charges for active management will often elect to invest in passive funds or index trackers.

1.3.3 Hedging

The risks that are inevitable when investing in shares, bonds and money market instruments can be mitigated, but not entirely, removed by entering into 'hedging'.

Hedging can be difficult to implement and becomes mathematically intensive especially where the investment portfolio contains complex instruments. Also hedging strategies will have a cost that inevitably impacts investment performance.

Hedging is usually achieved by using derivatives such as options, futures and forwards as described below:

- Buying put options on investments held will enable the investor to remove the risk of a fall in value, but the investor will have to pay a premium to buy the options.
- Futures, such as stock index futures, can be used to hedge against equity prices falling – but the future will remove any upside as well as downside.
- Forwards, such as currency forwards, could be used to eliminate exchange-rate risk – but, like futures, the upside potential will be lost in order to hedge against the downside risk.

1.3.4 Immunisation

Passive bond strategies are employed either when the market is believed to be efficient, in which case a buy-and-hold strategy is used, or when a bond portfolio is constructed around meeting a future liability fixed in nominal terms.

Immunisation is a passive management technique employed by those bond fund managers with a known future liability to meet. Essentially, an immunised bond portfolio is one that is insulated from the effect of future interest rate changes.

Immunisation can be performed by using either of two techniques: cash matching or duration-based immunisation.

- Cash matching involves constructing a bond portfolio, whose coupon and redemption payment cash flows are synchronised to match those of the liabilities to be met.
- Duration-based immunisation involves constructing a bond portfolio with the same initial value as the present value of the liability it is designed to meet and the same duration as this liability.

A portfolio that contains bonds that are closely aligned in this way is known as a 'bullet portfolio'. Alternatively, a barbell strategy can be adopted. If a bullet portfolio holds bonds with durations as close as possible to ten years to match a liability with a ten-year duration, a barbell strategy may be to hold bonds with a duration of five and 15 years. Barbell portfolios require more frequent rebalancing than bullet portfolios. This is explored in greater detail in section 2.5.2.

1.4 Combining Asset Classes

Learning Objective

5.2.6 Be able to analyse combinations of asset classes based on: historical returns; index and benchmark comparisons; correlation of performance between asset classes; advantages and limitations of relying on historical data

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As we have seen, asset allocation involves diversifying assets among different asset classes and so it is important to be aware of historical asset returns and the challenges of using correlations as a basis for the allocation decisions.

1.4.1 Historical Asset Class Returns

Historical data can be useful when considering the performance of the individual asset classes during the construction of an investment portfolio.

Historical asset class returns show that no single asset class can be expected to meet an investor's investment goals in all environments.

Source: BlackRock Investment Institute, with data from Refinitiv Datastream (June 2025).

The historical performance shows changes in market trends across several asset classes over the past fifteen years. Returns represent total annual returns (reinvestment of all distributions) and does not include fees and expenses. The asset allocation decision is the primary tool to manage this risk in a portfolio. The selection of asset mix is often a static one based on a historical risk/return trade-off while

the alternative is an active approach in which the expected trade-off between risk and return for the asset classes is based upon the current market and economic environment. Asset Allocation Portfolio is 15% large cap stocks, 15% international stocks, 10% small cap stocks, 10% emerging market stocks, 10% REITs, 40% high-grade bonds, and annual rebalancing.

In deciding which approach is best for a given portfolio, investors must ask whether any single mix of stocks, bonds, and cash is likely to achieve the goals of the portfolio in every market environment that may arise over the investment time frame. If such a mix exists, then it is reasonable to maintain that particular passive asset allocation. On the other hand, if no single mix exists that will meet the portfolio's objectives in all environments, then an investor must make some judgment regarding the best mix for the portfolio on a forward-looking basis. This implies that some form of active decision-making is required when determining a portfolio's asset allocation. Historical data can provide valuable information to unearth future investment opportunities. If a trend is present, there may be opportunities to apply forecasting techniques to build reliable forward projections. It can be used to obtain the key statistical measures of performance, namely returns, standard deviations and correlations.

While historical data can provide an idea of long-term average returns, it is important to recognise that there may be meaningful periods of time where these averages fail to hold. Similarly, volatility and correlation measures have also varied widely over long-term time periods.

The stochastic nature of security prices and difficulties in predicting market behaviours reflect increased complexity in the world if there are rapid changes underway. Hence, as far as forecasting is concerned, developing forecasts from historical data sets may not always be possible. This is because there are structural shifts and regime changes under way. Charting the progress of asset classes and their securities in this environment and picking out reliable investments has never been easy. Forecasting is a complex business and utilises high-level mathematical, statistical, economic and financial theory and ideas from many other disciplines, including the IT and psychology fields.

As a result, an active approach to asset allocation that considers the risk faced in today's market and economic environment may be key to lowering the risk of failing to meet long-term investment objectives.

1.4.2 Correlations

Given that correlation is a key feature of portfolio construction theory, we need to examine the nature of correlation further.

Correlation is a measure of the tendency of the returns of one asset to move in tandem with that of another asset. In other words, two assets that are uncorrelated could be expected to show no systematic, linear relationship between their returns over time. By combining uncorrelated assets, the movements of one asset can be expected to at least partially mitigate the movements of the second asset, reducing the average volatility of a portfolio.

Care, however, must be exercised in using correlation data as it is subject to estimation error and correlations among assets can vary both over time and in different market circumstances. The following table shows the annual returns from various global asset classes from 2005–24:

Annual Returns 2005–24

Source: MFS Fund Distributors, February 2025

What these long-term averages mask is that during this period there have been times when correlations varied greatly and times when the correlations moved in sync. This variability is present in all summary statistics of long-term data.

Research suggests that underlying correlations between asset returns change over time and in particular circumstances and have important relationships to events such as volatility shocks. Other research provides similar evidence finding that equity-bond correlations are positively related during normal market conditions, but compress during stock market plunges and that increasing global interdependence between markets may be causing correlations between international stocks to increase.

Correlation can provide useful information in the portfolio construction process, but it is important to recognise that correlation is a property of random variables and so does not describe a fixed relationship. Assets with low and unchanging correlation can and do move in the same direction from time to time and correlations between asset class returns can and do change over time or in particular circumstances. Future correlations may also differ from those in the past because of changing economic and market regimes.

1.4.3 Implications for Portfolio Construction

Changing market correlations is not a new phenomenon. Indeed, correlations among asset classes have never been fixed; however, the pace of change has arguably intensified over time for various reasons including integration of global markets, synchronised monetary policy, financial innovation and evolving trading strategies.

Investing over the long term will almost inevitably include short-term periods of (sometimes severe) market stress, during which the value of diversification is less evident. History supports the notion that over longer-term periods, diversification within and across asset classes offers substantial benefit.

A conclusion that can be drawn from all of the above is that a continued focus on strategic asset allocation is the correct approach but married with a flexible approach to asset allocation. A flexible approach allows investment managers to manage portfolios with a much wider asset allocation range and allows asset exposure to vary through the market cycle.

1.5 Limiting Factors on Portfolio Construction

Learning Objective

5.2.2 Understand the main constraints and factors which limit the extent to which investment theory can be applied to the process of portfolio construction: investment mandate restrictions/client preferences; time horizon and size of portfolio; frequency of cash inflows and outflows; turnover costs; transaction, custody and management fees; withholding taxes; sources of tracking error (where applicable)

Portfolio construction theories need to be tempered by the factors and constraints which clients may require are taken into account during the management of their portfolio.

We will explore some of these factors in more detail in the next chapter but for now, some of the constraints and their implications are:

- The client's investment objectives and attitude to risk will drive what constitutes a suitable portfolio for the client.
- A client's attitude to risk may mean that lower risk and lower return assets are more suitable for some while for others, more risky assets may be suitable. Each of these approaches can be considered prudent and the decision of which path to take ultimately depends on the broad objectives of the investor and their risk profile.
- Client preferences may require that certain assets or asset classes are included or excluded from a portfolio such as adopting an **ethical investment** stance, respecting deeply held religious beliefs or where a client has a strong desire to retain certain investments.
- The size of the funds available to invest will clearly have an impact on portfolio construction and the range of asset classes and sectors that are included. The frequency of cash inflows and outflows will also impact such as when a client needs to meet a series of known liabilities.
- Costs are an important factor in the choice of investments and will need to be factored into the selection process as will the choice of active and passive investment management styles and any required level of tracking error.

2. Investment Strategies

Learning Objective

5.2.5 Be able to assess the main aims and investment characteristics of the main cash, bond and equity portfolio management strategies and styles: indexing/passive management; active/market timing; smart indexing; growth, income, value, and contrarian investing; market capitalisation; liability driven (LDI); immunisation; long, short and leveraged; issuer and sector-specific; quantitative, trend, and trading strategies

2.1 Cash Management

Managing the cash element of a client's assets is fundamental to sound wealth management as having sufficient funds for predictable expenses and emergency expenditure is essential to a financial plan.

A cash management strategy needs to address a number of key factors:

- Cash requirements of the client in conjunction with expected inflows and outflows by developing cash flow projections that drill down to a level that is appropriate to the client's circumstances and needs. This can be achieved through cash flow analysis tools combined with stochastic assumptions about asset class returns and volatility of those returns.
- Circumstances to identify the types of accounts that will be needed to provide an emergency liquidity reserve and whether accounts are needed to provide a source of short- and long-term funds or whether accounts are needed to capture surplus income and channel this for investment.
- Appropriate account selection that meets these needs and which are suitable in terms of security, liquidity and return.

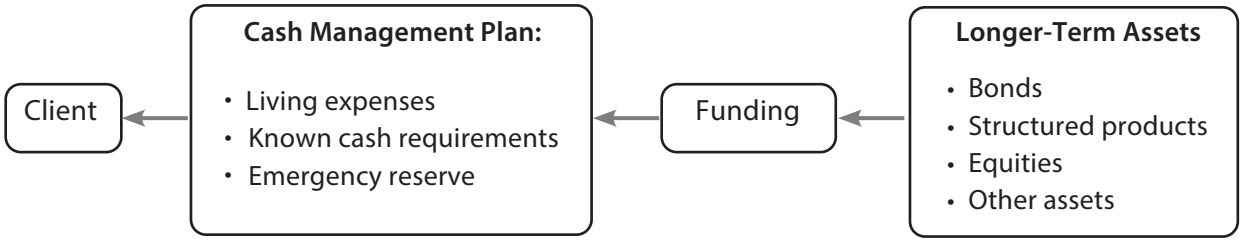
These will be brought together into a cash management plan that reflects the client's financial position and stage in life. It will be differentiated by whether it is designed to meet the funding needs of the client or manage surplus funds.

2.1.1 Managing Funding Needs

Meeting the funding needs of the client is most often encountered where the client is retired, when a sound cash management plan will need to recognise that retirement often signals the move from a reliance on regular earnings to reliance on earnings from savings and investments. It must also be remembered that clients may still have many years left in retirement and might wish to continue to invest and not draw cash from their pension until well into retirement. People are living longer and so, in retirement, assets must work harder and be sustainable.

A cash management plan will, therefore, need to provide an emergency liquidity reserve, take account of predicted cash requirements and incorporate how much cash reserve the client needs will be supplemented in both the short and long term.

This is shown diagrammatically as follows:



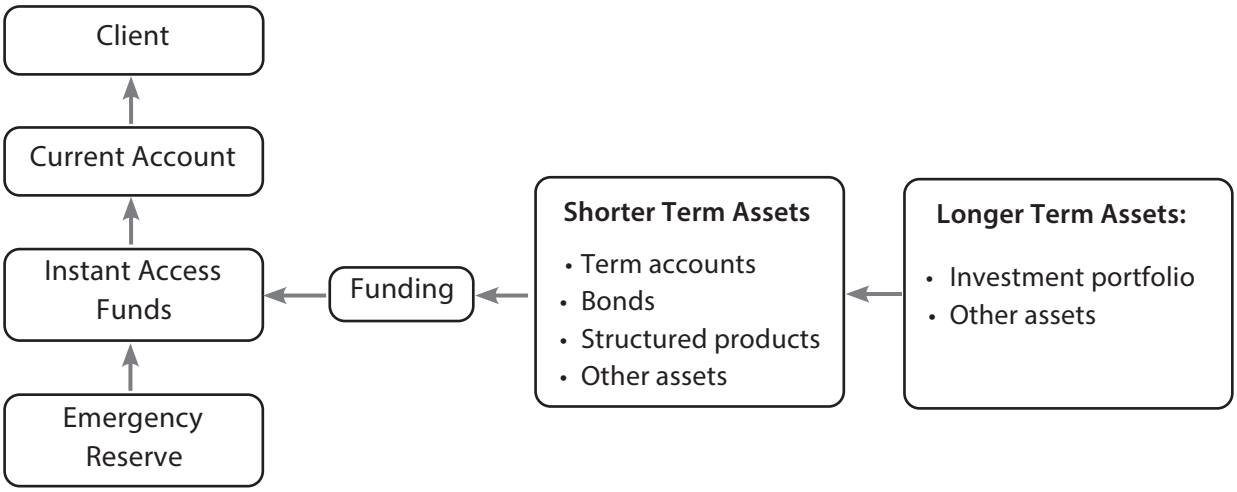
Managing the funding needs of clients involves ensuring that they have an adequate emergency liquidity reserve and developing a strategy to deliver a reliable supply of funds to top up that emergency reserve and provide both the short- and long-term funding identified as being part of the ongoing cash management programme.

The function of an emergency liquidity reserve is to provide a readily available source of funds to meet unexpected events. It needs to meet two criteria: a suitable amount and availability.

- Assessing what is a suitable amount will usually revolve around home, health and job, and can be quantified by using these as discussion points with the client. What amount is appropriate is, however, subjective and it is important therefore that it is both realistic and passes the client's test of being sufficient to provide them with a sense of security.
- Having decided on a suitable amount, it is important to then find a suitable home for the funds. This could include cash accounts, money market funds or even short-dated bonds.

Longer term funding involves the client using the funds they have built up to finance the lifestyle they wish to follow in retirement. Their income may be insufficient and it will be necessary to develop a strategy to access capital by a structured withdrawal of funds from the long-term portfolio to meet both their short- and long-term needs. This is shown diagrammatically below.

Managing Short- and Long-Term Funding Needs

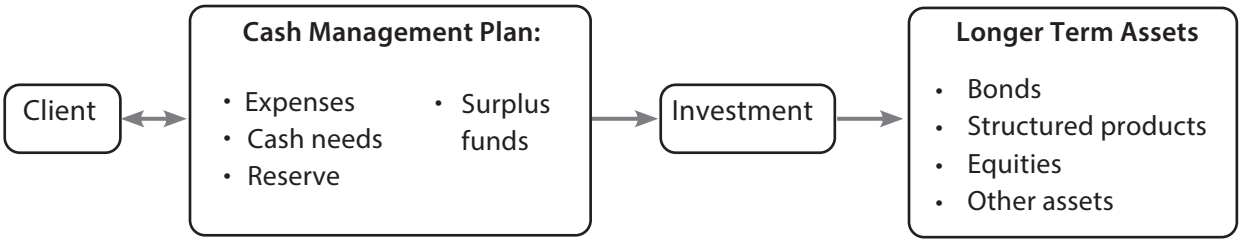


There is a wide range of assets that can be used to finance the short-term funding needs of the client and this wide variety of choices enables investments to be tailored to an individual's financial objectives, their income needs and their tolerance for risk. These can be structured so that there is a regular flow of products maturing to 'top up' the client's cash reserve or emergency reserve.

It should also be remembered that the client's attitude to risk for this part of their assets may be different than for their longer-term investments. A client may have an adventurous attitude to risk for their long-term portfolio but a cautious attitude for shorter term assets. Establishing this is obviously key to a selecting suitable solution.

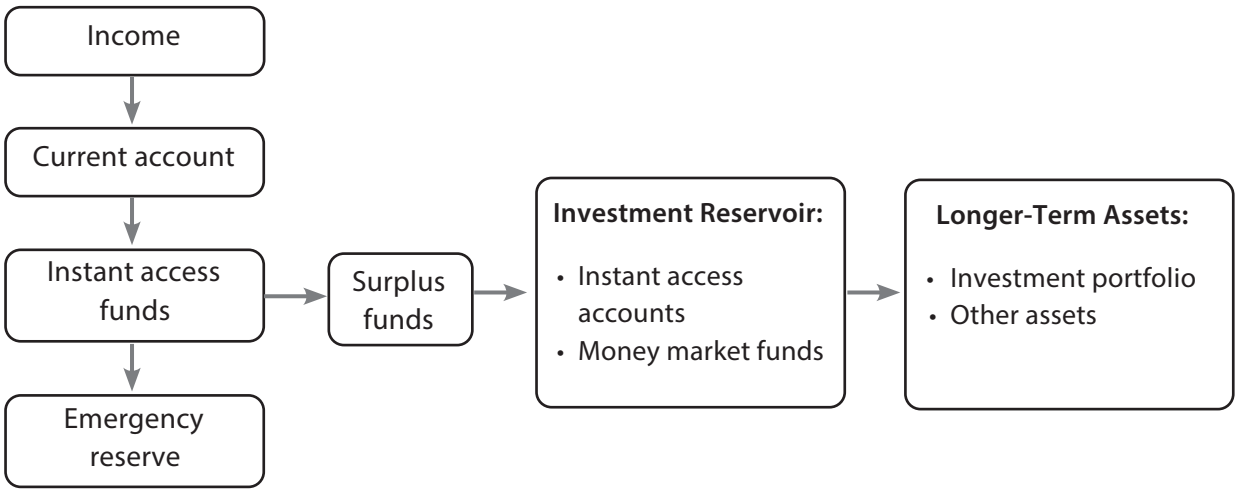
2.1.2 Managing Surplus Funds

Depending upon a client's stage in life, they may not have a need for funds and instead may have surplus income and other funds that instead need to be channelled effectively into longer term investments.



After setting aside funds for living expenses and an emergency reserve, surplus funds should be directed into an investment reservoir prior to being invested into longer term investments. The investment reservoir is simply an account that can be used primarily as a matter of logistical convenience to efficiently transfer surplus funds from the client to the long-term investment portfolio.

An investment reservoir allows surplus funds to be invested in accordance with the investment plan and without delay but also without decisions having to be made too frequently or over amounts that are too small. This is shown diagrammatically below.



The diagram shows that the principle of an investment reservoir is to move the cash through the system and into the investment reservoir and then out for investment as quickly and automatically as possible. The accounts used for the investment reservoir, therefore, need to enable ready access to the funds and where possible there should be an automatic sweep of surplus funds above an agreed amount.

As the purpose of the investment reservoir is to get funds invested, then the wealth manager should place a trigger point to avoid funds sitting in the account for too long. This trigger point could be quarterly if the cash flow is large or it could be value driven if the surplus cash flow is small, for example, when it reaches £20,000.

2.2 Active Equity Selection Strategies

Stock selection, or stock picking, is important whenever the fund managers are prepared to accept the overall consensus for the market as a whole, but believe that certain individual securities are mispriced.

- An overpriced security is one that has an expected return that is less than should be expected on a risk-adjusted basis.
- An underpriced security has an expected return that is more on a risk-adjusted basis than would be expected.

Active stock selection can involve the application of various fundamental, technical or quantitative techniques – by reference to the capital asset pricing model (CAPM) (see chapter 4) which values securities relevant to the overall market (the securities market line (SML)), a security is said to be mispriced if it has a non-zero alpha value and, therefore, has a return above what might otherwise be expected and is, therefore, undervalued.

The objective of a stock picker is to pick portfolios of securities with positive alpha. In terms of active stock selection, the manager will try to construct portfolios of securities that will have a more than

proportionate weighting of the underpriced or positive alpha securities, and correspondingly less than proportionate weighting of the overpriced securities which are exhibiting negative alpha.

2.2.1 Main Investment Styles

Bottom-up methods are usually dependent on the style or approach of the individual fund manager or team of managers. A fund management style is an approach to stock selection and management based on a limited set of principles and methods. The most widely recognised pure styles are:

- **Value** – this is the oldest style and is based on the premise that deep and rigorous analysis can identify businesses whose value is greater than the price placed on them by the market. By buying and holding such shares often for long periods, a higher return can be achieved than the market average. Managers of 'equity income' or 'income and growth' funds often adopt this style, since 'out of fashion' stocks often have high dividend yields.
- **Growth At a Reasonable Price (GARP)** – is based on finding companies with long-term sustainable advantages, in terms of their business franchise, quality of management, technology or other specific factors. Proponents argue that it is worth paying a premium price for a business with premium quality characteristics. The style is used mainly by active growth managers.
- **Momentum** – this is an investment strategy that aims to capitalise on the continuance of existing trends in the market. The momentum investor believes that large increases in the price of a security will be followed by additional gains and vice versa for declining values. This is the strategy most widely adopted by middle-of-the-road fund managers.
- **Contrarianism** – the concept behind contrarian investing is that high returns can be achieved by going against the trend. Correctly judging the point where a trend has reached an extreme of optimism or pessimism is difficult and risky. This style is found most often in hedge fund managers.

2.2.2 Other Investment Styles

Other investment styles include the following:

Quantitative funds

A quantitative ('quant') fund is an actively managed fund where the stock-selection process is driven by computer models. A pure quant fund relies solely on computer models to make this stock selection.

The fund manager uses pre-determined or pre-set models to undertake this stock selection process, as opposed to judgement based on fundamental analysis. Such models sometimes rely on ideas such as portfolio theory, CAPM, the dividend valuation model and options pricing techniques – ie, fundamental evaluation tools – in order to determine which stocks to hold and in what proportions. Sometimes, the models are more based on the identification of patterns as discussed in conjunction with technical analysis.

Typical strategies of quant funds:

- Growth strategies.
- Value strategies.
- Statistical arbitrage strategies.
- Correlation strategies.

- Long/short equity strategies.
- Dispersion strategies.

It used to be observed that quant funds tend to perform better in market downturns whereas more fundamental funds perform better in upswings. Quant funds, based on correlations and exploiting convergence or mean reversion strategies assume that the historical statistical relationships between stocks will continue into the future, which clearly may not hold true. Their experience in the recent market downturns is leading many to question whether this still holds.

Income Investing

Income investing aims to identify companies that provide a steady stream of income.

Income investing may focus on mature companies that have reached a certain size and are no longer able to sustain high levels of growth. Instead of retaining earnings to invest for future growth, mature firms tend to pay out retained earnings as dividends as a way to provide a return to their shareholders. High dividend levels are prominent in certain industries such as utility companies.

The driving principle behind this strategy is to identify good companies with sustainable high dividend yields to receive a steady and predictable stream of income over the long term.

Because high yields are only worth something if they are sustainable, income investors will also analyse the fundamentals of a company to ensure that the business model of the company can sustain a rising dividend policy.

Absolute Return

An absolute return strategy seeks to make positive returns in all market conditions by employing a wide range of techniques, including short selling, futures options, derivatives, arbitrage, leverage and unconventional assets.

Alfred Winslow Jones is credited with forming the first absolute return fund in New York in 1949. In recent years, the use of an absolute return approach has grown dramatically with the growth of hedge funds and the launch of numerous open-end funds following the same strategy.

2.2.3 Combined Approach

In practice, successful managers usually develop their own personal styles over a period of years, usually based on one or other of the major styles outlined above.

Many houses use a combined approach with fundamental analysis and quantitative analysis dictating the markets and stocks which they wish to buy, and technical analysis being used to determine the timing of entry into the marketplace. As already noted, increasing numbers of fund managers are becoming familiar with technical analysis since if sufficient numbers do believe the technical analysts, then the markets will have a tendency to move in line with the anticipations of technically focused traders.

When evaluating the style that is being followed, it is also important to understand whether the fund manager is operating within the restrictions imposed by a 'house style' or is free to follow their own convictions. Centralised versus decentralised refers to this approach:

- **Centralised approach** – a firm decides that it will have an agreed investment policy that all of its investment managers will follow.
- **Decentralised approach** – a firm will give discretion to its investment managers to operate freely or within general constraints.

The approach adopted can often be important in the analysis of a fund. Large fund groups often have the organisational infrastructure that can support extensive research and are likely to have several people involved in the management of a fund, so that the departure of one individual will not necessarily have a great impact on performance.

By contrast, a smaller fund can allow a talented fund manager to demonstrate their skills and deliver exceptional returns without the bureaucracy and constraints that might exist in a larger organisation. Many boutique fund management operations have been set up to exploit this very edge. However, these types of funds can present a risk through their dependence on one key individual. The potential for superior investment returns needs to be balanced against the absence of organisational support and the potential impact that this can have on the consistency of returns.

2.3 Passive Equity Management

Passive equity management involves holding a portfolio for the long term with only minor changes or a portfolio that replicates an index.

2.3.1 Buy and Hold

A buy and hold strategy involves buying a portfolio of securities and holding them for a long period of time, with only minor and infrequent adjustments to the portfolio over time. Under this strategy, investments bought now are held indefinitely, or if they have fixed maturities, held until maturity and then replaced with similar ones.

An example we have already seen of this strategy is the unit investment trust (UITs) that is found in the US. UITs have a largely fixed portfolio – one that is not actively managed or traded. Once the trust's portfolio has been selected, its composition may change only in very limited circumstances.

2.3.2 Indexation

There is a variant to the buy and hold strategy that eliminates the diversifiable risk and effectively replicates the performance of a market index; this is known as index matching or indexation. There are several different ways of approaching indexation but the most fundamental one is to decide on the appropriate index for the client as there are many different market indices available. The duplication of an index by holding all of its constituents is known as complete indexation and its characteristics are noted below:

- The requirement is to match exactly the underlying components of the relevant index and as such it can often be complex and expensive.
- For example, the S&P 500 Index contains several hundred securities weighted according to their relative market proportions.
- To construct a portfolio of all these securities with the same proportions as the index would involve extremely high commissions and dealing costs.

Although the large world indices are relatively stable in terms of their constituents there is a need from time to time to make changes and modify the components. The components of an index are periodically adjusted in light of changes of ownership of certain companies, the removal of stocks whose market **capitalisation** falls below a certain threshold level and their substitution with another company which has grown in stature and market capitalisation to qualify for entry to the index.

If a fund manager is replicating such an index, where modifications are being made from time to time, then all of the changes and rebalancing would need to be made to the replica and this would involve dealing costs and commissions as well as dealing spreads.

A **bond index fund** will be more complex and expensive to replicate. With the passage of time the average maturity of a bond index will decline and to replace those bonds which are reaching redemption with suitable alternatives and preserve the duration characteristics of the bond fund is a particularly challenging undertaking. In general terms, duplication or complete indexation is often not practical, and therefore alternative strategies designed to emulate the index's performance are used.

Indexation Methods	
Stratified sampling	• As in statistical theory, the use of stratified sampling involves the selection of a sample of securities from the total population comprising the index. • The sample should be stratified so that it is representative of the primary characteristics of the whole population, eg, the total population of the index constituents can be divided into sectors in the case of equities and into different maturities in the case of bonds. • A cross-section of securities is then selected from each sector with the intention that the sample exhibits the highest correlation to the sector's overall return and likewise that there is a strongly correlated fit between the returns from the sample and those from the entire populations of the assets in the index. • This procedure limits the initial transaction costs and subsequent rebalancing costs but increases the risks of tracking errors – the difference between the fund's return and the return on the market index.

Indexation Methods	
Factor matching	• Factor matching involves the construction of an index fund using securities selected on the basis of specifically chosen factors or risk characteristics. • If the first risk factor required is that the sample matches the level of systematic risk, then the selected portfolio will need to be chosen to have the same level of beta as the market. • Other factors may be sector breakdown, dividend pattern, firm size, financial structure, gearing ratio or a 'smart beta' approach to identify a better risk and return trade-off than conventional market capitalisation-weighted indices by using alternative weighting schemes based on measures such as volatility or dividends. • The selected index fund would be a subset of the available securities within the whole index that matched the market in terms of the required factors and have the highest overall correlation with the market.
Co-mingling	• Co-mingling involves the use of mutual funds rather than the explicit formation of an index fund. • Co-mingling may be especially suitable for clients with relatively small portfolios and may provide an acceptable compromise between the transaction costs of complete indexation and the tracking error of stratified sampling.

2.3.3 Tracking error

The desire to replicate the performance of an index with a subset or sample is prone to tracking errors.

- In other words, when the index is changed in some fashion, for example, to remove certain securities which may have been taken over or which have fallen below the market capitalisation threshold and then to include some new entrants, the replication format used may no longer be suitable.
- If the sample was based upon stratification and reflection of the sector composition of the index, the removal of one or two key securities from a sector could have quite a pronounced effect on the sample which was set up to emulate the previous composition of the index by sector.
- The replication may need to be quite significant in terms of changing the constituents of the sample or replica to reflect again the stratification of the whole index.

Another problem arises when the constituents of an index are changed.

- When the announcement of a change is made, the price of the security being deleted tends to fall, while the price of the security being added tends to rise.
- Fund managers are then forced to take a loss on some of their holdings as they sell them from their portfolio and have to pay over the odds for the additions, where the prices will fall back over time after the index has 'settled' down again.
- These effects can cause major tracking errors between index funds and the index itself.

Apart from the transaction costs involved in setting up and rebalancing, there are other problems associated with running an index fund:

- Income payments on the securities – the total return on an index may include not only capital gains but also income in the form of dividend or coupon payments. In order to match the performance of the index in terms of income, the index fund would need to have the same pattern of income payments as the index. It would also have to make the same reinvestment assumptions.
- Index may assume that gross income payments are reinvested without cost back into the index on the day each security becomes ex-div. In practice, however, this assumption can be wrong for the following reasons:
- The dividend or coupon payment is not made until an average of six weeks after the ex-div date.
- The payment is received net of tax.
- There are dealing costs of reinvesting income payments.
    - The income payments on different securities may be fairly small and it may not be worthwhile investing such small sums on the days they are received.

Unless complete indexation had been undertaken, it would be unlikely that an index fund would exactly replicate the income pattern of the index. So, over the longer term there is an expectation that the fund will underperform the index, ie, suffer a tracking error.

Despite these issues, indexation is a popular form of fund management. It attempts to avoid, as far as possible, decisions about selection and timing of investment yet it is not purely passive. At the very least, the choice of index and the reinvestment of income involve active intervention.

2.4 Active Bond Selection Strategies

As with an equities portfolio, a bond portfolio will be actively managed whenever there are mispriced bonds available.

2.4.1 Duration Switching

Active bond portfolio management operates around the activities of security selection and market timing. However, there is a difference between active share selection and active bond selection. Most equity managers engage in security selection, whereas most bond managers engage in market timing.

- A bond picker will construct a portfolio of bonds that, in comparison with the market portfolio, has less than proportionate weightings in the overpriced bonds and more than proportionate weightings in the underpriced bonds.
- A market timer engages in active management when they do not accept the consensus market portfolio and is either more bullish or more bearish than the market. Expectations of interest rate changes are, therefore, a crucial input into successful market timing.

Market timing involves adjusting the relative duration of this portfolio over time.

- Market timing with bonds is sometimes called duration switching.
- The fund manager is expecting a bull market because they are expecting a fall in the general level of interest rates and will want to increase the duration of the portfolio by replacing low-duration bonds with high-duration bonds.
- The fund manager is expecting a bear market because they are expecting a rise in the level of interest rates, they will want to reduce the duration of the portfolio.

Active bond portfolio management is generally not as profitable as active share portfolio management. There are several reasons for this:

- There are more shares traded than bonds.
- The most liquid bonds are government bonds that have only certain maturities.
- The volatility of bond prices is generally much lower than that of shares, so fewer opportunities for substantial mispricing of bonds exists.

2.4.2 Riding the Yield Curve

'Riding the yield curve' is a bond strategy that can be used when the yield curve is upward sloping.

When there is a normal yield curve, then an fund manager can buy bonds with maturities in excess of their investment horizon or the time period over which they invest.

- Proceeds to hold the bonds until the end of this investment period and then sells them.
- If the yield curve has not shifted during that period, the investment manager will have generated higher returns than if they had bought bonds with the same maturity as their investment horizon.
- This is because as the time to maturity declines, the yield to maturity falls and the price of the bond rises, thereby generating a capital gain (hence, the term 'yield curve ride').
- These gains will be higher than those available if bonds with the same maturity as the investment horizon are used because the maturity value of the latter bonds is fixed.

The following example shows how an opportunity to ride the yield curve might be taken where the term structure of interest rates is upward sloping meaning that longer dated instruments are yielding more than shorter dated instruments.

To keep the example simple, we shall assume that the two instruments are zero coupon Treasury notes with one and two years remaining to maturity. The current yield curve reveals that a one-year note will have a yield to maturity of 8% whereas a two-year note will have a yield to maturity of 9%. Since there are no coupons all we need to do is calculate the current price of the bond.

Zero Coupon Treasury Bond	Time to Maturity	Yield To Maturity as per the Yield Curve	Formula	Price of Bond
A	1	8.00%	100/108^1	92.59
B	2	9.00%	100/109^2	84.17

If the fund manager buys the one-year zero coupon bond and holds it for one year until redemption the return will be exactly as provided for by the yield curve – 8%.

$$r = \frac{100 - 92.59}{92.59} = 8\%$$

Since this is a zero coupon held to maturity, the **reinvestment risk** is zero.

The alternative scenario is to buy the two-year note and hold it for one year and sell it then as a zero coupon with one year remaining. The return available then is as follows:

$$r = \frac{92.59 - 84.17}{84.17} = 10\%$$

The return can again be determined from the holding period return calculation, though an assumption is required regarding the selling price in one year. The risk this time is not zero as the fund manager is exposed to movements in the yield curve.

So, riding the yield curve is a strategy by which bond managers take on some risk in order to enhance returns.

2.4.3 Bond Switching

There are two main classes of bond switches, anomaly switches and policy switches.

An anomaly switch is a switch between two bonds with very similar characteristics, but whose prices or yields are out of line with each other.

Anomaly Switching	
Substitution switching	• This involves switching between two bonds that are similar in terms of maturity, coupon and quality rating and every other characteristic, but which differ in terms of price and yield. • Since two similar bonds should trade at the same price and yield, this circumstance results in an arbitrage opportunity between the dear bond being sold and the cheap bond being purchased. • If the coupon and maturity of the two bonds are similar, then a substitution swap involves a one-for-one exchange of bonds. • However, if there are substantial differences in coupon or maturity, then the duration of the two bonds will differ. This will lead to different responses if the general level of interest rates changes during the life of the switch. It will, therefore, be necessary to weight the switch in such a way that it is hedged from changes in the level of interest rates.
Pure yield pickup switch	• A pure yield pickup switch involves the sale of a bond that has a given yield to maturity and the purchase of a similar bond with a greater yield to maturity. • With this switch, there is no expectation of any yield or price correction, so no reverse transaction will need to take place at a later date, which may be the case with a substitution switch.

A policy switch is a switch between two dissimilar bonds, which is designed to take advantage of an anticipated change in interest rates; the yield curve; possible changes in the bond credit rating from the major ratings agencies; or sector relationships.

Policy switches are expected to lead to a change in the relative prices and yields of the two bonds and involve greater expected returns, but also greater potential risks, than anomaly switches.

2.5 Passive Bond Management

Passive bond strategies are employed either when the market is believed to be efficient, in which case, a buy and hold strategy is used, or when a bond portfolio is constructed around meeting a future liability fixed in nominal terms.

There are three types of passive bond selection strategy for the management of the bond element of the portfolios that we will consider:

- Cash flow matching.
- Duration matching or immunisation.
- Horizon matching or combination matching.

2.5.1 Cash Flow Matching

Cash flow matching is a straightforward approach to bond management. The approach is simply to purchase bonds whose redemption proceeds will meet a liability of the fund as they fall due.

Where there is a single liability, then clearly just one bond can be purchased with a maturity date close to when the expected liability is due.

Where there are several liabilities, then a range of bonds can be used with the coupons and maturity payments being spread across the liabilities. This concept is shown in a simplified form in the diagram below.

	Liability 1	Liability 2	Liability 3	Liability 4
Bond 1	Coupon	Coupon	Coupon	Coupon and Maturity Payment
Bond 2	Coupon	Coupon	Coupon and Maturity Payment	
Bond 3	Coupon	Coupon and Maturity Payment		
Bond 4	Coupon and Maturity Payment			

The strategy involves:

- Starting with the final liability, a bond is purchased whose final coupon and maturity payment will meet the liability.
- Turning next to the penultimate liability, this may be satisfied in part by the coupon flows arising from bond 1 and any remaining liability is matched against the final coupon and maturity payment of a second bond.
- This process is continued for each liability, ensuring that bonds are purchased whose final coupon and redemption values extinguish the net liabilities of the fund as and when they occur.

The following example shows how this might work in practice using some simple assumptions.

Example

Let us assume that a client has liabilities of $10,000 that are due annually over the next four years and that the following bonds are available.

Bond 1 – 3% coupon: repayable in four years' time; priced at 105.

Bond 2 – 4% coupon: repayable in three years' time; priced at 109.

Bond 3 – 2% coupon: repayable in two years' time; priced at 102.

Bond 4 – 2% coupon: repayable in one year's time; priced at 100.

The table below shows the nominal amount of each stock that would need to be bought to meet the expected liabilities:

	Nominal	Coupon	Price	Cost
Bond 1	9,700	3%	105	10,185
Bond 2	9,400	4%	109	10,246
Bond 3	9,200	2%	102	9,384
Bond 4	9,000	2%	100	9,000
Total				38,815

We can now look at the cash flows that would result from the bonds and see that they approximately meet the client's anticipated liabilities. (In each case, we will assume that the coupon is paid annually.)

	Liability 1		Liability 2		Liability 3		Liability 4	
Bond 1	Coupon	291	Coupon	291	Coupon	291	Coupon	291
							Maturity	9,700
Bond 2	Coupon	376	Coupon	376	Coupon	376		
					Maturity	9,400		
Bond 3	Coupon	184	Coupon	184				
			Maturity	9,200				
Bond 4	Coupon	180						
	Maturity	9,000						
Total		10,031		10,051		10,067		9,991

The approach outlined is a simple buy and hold strategy and as such does not require a regular rebalancing. In practice, it is unlikely that bonds exist with exactly appropriate maturity dates and coupons but, intuitively, it is a straightforward concept to understand and to be able to explain to clients.

An alternative approach to the above would be to buy zero coupon bonds such as STRIPS that match the expected liability. The returns on STRIPS will, however, be lower than might be available on highly rated corporate bonds.

2.5.2 Duration Matching or Immunisation

As introduced earlier in this chapter, immunisation is an investment management technique employed by those bond portfolio managers or private investors with a known future liability to meet. An immunised bond portfolio is one that is insulated from the effect of future interest rate changes. The investor, therefore, knows in advance the yearly cash flow/redemption amounts that can be put towards liabilities, such as school fees.

The ongoing fluctuation of interest rates poses a particular problem for fund managers with a portfolio of bonds because of reinvestment risk. By using an approach based upon bond duration, it is possible to maintain a steady return over a specific time horizon, irrespective of any changes in the interest rate.

Duration-based immunisation involves constructing a bond portfolio with the same initial value as the present value of the liability it is designed to meet and the same duration as this liability.

A portfolio that contains bonds that are closely aligned in this way is known as a 'bullet portfolio'. Alternatively, a barbell strategy or ladder of bonds can be adopted.

Duration Matching	
Bullet portfolio	• Let us assume a client has a liability due in ten years' time but that there are no bonds that exactly match the timescale. • There are, however, bonds with nine-year and 11-year durations (note – durations not maturity). • A portfolio containing the two bonds could be constructed with half invested in each. The portfolio would then have a duration that matched the liability – 0.500 x 9 + 0.500 x 11 = 10 years. • In practical terms, one bond would repay earlier than needed and the other would need to be sold although it would be very short dated and so should realise close to its par value.
Barbell portfolio	• Again, let us assume the client has a liability due in ten years' time. • Using a barbell strategy, let us assume we can identify two bonds, one with a four-year duration and the other with a 15-year duration. • By changing the proportions invested in each we can construct a portfolio that has a duration that matches the liability by investing 45.5% in the first and the balance in the latter – 0.455 x 4 + 0.545 x 15 = ten years. • In practical terms, the portfolio could not remain static and would obviously need regular rebalancing.
Ladder portfolio	• Instead of just two bonds, we could construct a portfolio containing a greater number of bonds with a range of durations. • The percentages invested in each would need to be adjusted to meet the liability. • For example, let us say for example that the durations and percentages invested were – • (1 year x 0.10) + (5 years x 0.15) + (10 years x 0.20) + (15 years x 0.25) + (20 years x 0.30) • Then the overall duration of the portfolio would equal ten years. • As the earlier bonds are repaid, the proceeds could be reinvested and the spread of bonds maintained or concentrated as desired.

Barbell and ladder portfolios necessarily require more frequent rebalancing than bullet portfolios.

The primary factor which can introduce risk into the approach to immunisation will be caused by non-parallel shifts in the yield curve – that is where there is a shift in the yield curve in which yields do not change by the same number of basis points for every maturity. Where this happens, matching the duration of the investment to the liability horizon no longer guarantees immunisation.

2.5.3 Horizon matching

Horizon matching or combination matching is a mixture of the above two approaches to managing bonds.

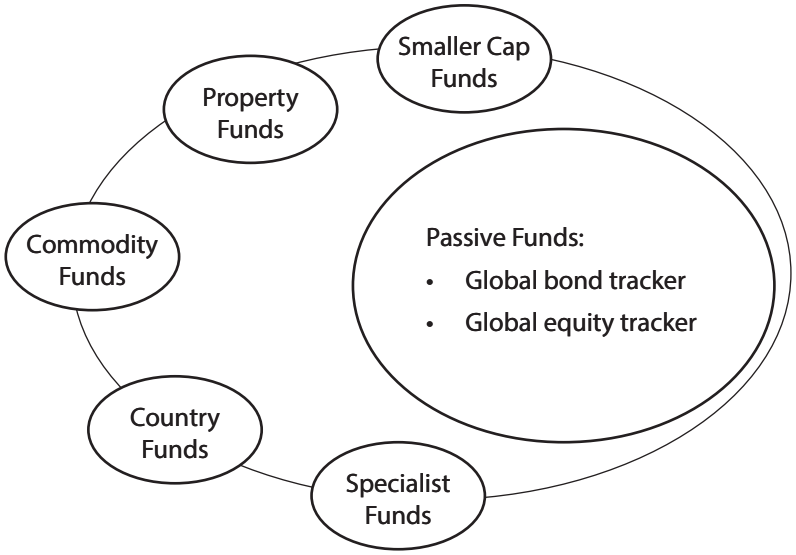
It is possible to construct a portfolio where, for example, the cash flow matches the liabilities for the next four quarters but is then immunised for the remaining investment horizon. At the end of the four quarters, the portfolio is rebalanced to cash flow match over the subsequent four quarters and is again immunised for the remaining period.

2.6 Core Satellite Management

Having considered both active and passive management, it should be noted that active and passive investment strategies are not mutually exclusive.

Index trackers and actively managed funds can be combined in what is known as core-satellite management. This is achieved by indexing, say, 70% to 80% of the portfolio's value so as to minimise the risk of underperformance, and then fine-tuning this by investing the remainder in a number of specialists actively managed funds or individual securities. These are known as the 'satellites'.

This concept is illustrated in the diagram below:



The core can also be run on an enhanced index basis, whereby specialist investment management techniques are employed to add value. These include stock lending and anticipating the entry and exit of constituents from the index being tracked.

In addition, indexation and active management can be combined within index tilts. Rather than hold each index constituent in strict accordance with its index weighting, each is instead marginally overweighted or underweighted relative to the index based on their perceived prospects.

3. Market Information and Research

Learning Objective

5.1.1 Understand the use of regulatory, economic and financial communications: news and research services; government resources and statistics; regulatory resources

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The ability to source and interpret all kinds of information, both qualitative and quantitative, in a timely fashion is key to the portfolio management process. However, since information, or data, can be sourced from a variety of media, is presented in a wide range of formats and is not always in a readily usable form, becoming familiar with information sources and being able to assimilate data is imperative if informed investment decisions are to be made and investment opportunities are to be capitalised upon.

Investment decisions require an analysis and interpretation of a wide range of data. As a result, this section firstly describes the different types of data, how it is collected and how it can be presented by data providers, and then looks at some of the core mathematical calculations that are needed for investment management.

3.1 Research and Reports

The data needed by an investment manager can be sourced from a wide range of sources including:

- Internet websites – these range from those that provide up-to-the-minute general and finance news to those which provide access to comprehensive and more specialist economic, social, demographic and industry information.
- Commercial quote vendors – these provide real-time security pricing information as well as historic security and economic data such as Bloomberg and Refinitiv.
- Company financial statements.
- Share price charts.
- Independent company analysis provided by specialist research consultancies and credit rating agencies.
- Authoritative in-depth analysis of financial, economic and social trends produced by government statistical departments, **central banks**, international agencies such as the World Bank, International Monetary Fund (IMF) and Organisation for Economic Co-operation and Development (OECD), business schools and other academic research organisations.
- Economic bulletins and financial reports.
- Newspapers and other journals.

3.1.1 News Services

The major providers of financial news include the following:

- **Bloomberg** – provides financial software tools such as analytics and equity trading platforms, data services and news to financial companies and organisations around the world through the Bloomberg Terminal. Bloomberg has grown to include a global news service, including television, radio, the internet and printed publications. According to a market survey by the New York Times, it has a one-third share of the market for financial information services.
- **Thomson Reuters** – very visible on the internet as a major source of financial and non-financial news coverage. According to the New York Times survey, it also has an approximate one-third share of the market for financial information services.
- **Consumer News and Business Channel (CNBC)** – a satellite and cable television business news channel in the US, owned and operated by NBC Universal. The network and its international spin-offs cover business headlines and provide live coverage of financial markets.
- **Financial Times (FT) and Wall Street Journal (WSJ)** – these two publications are also widely followed by global investors and there are of course many other newspapers which provide detailed coverage of financial matters both domestically and from around the world.

3.1.2 Fund Analysis

There is a dizzying array of investment funds available for equity investment, and it is important to understand the types of funds that are available. This is covered in chapter 3.

There are a number of independent ratings agencies that provide ratings for investment funds. The majority of these ratings are based on risk-adjusted past performance, though some place considerable weight on qualitative factors, such as how a portfolio manager runs their fund.

Quantitative analysis involves metrics such as comparing the performance of specific funds with the overall market performance or the difference between a fund's performance and a given benchmark. Qualitative analysis differs in that it is more subjective and considers metrics such as fund managers' skills and expertise and the relative position of the fund compared to one's view of the market's future direction. Typically, a mixture of both quantitative and qualitative analysis will provide the optimum position.

Although none of these ratings agencies claim to have predictive power, they seek to provide a valuable tool to filter out those funds that consistently under perform. With so many funds available, the ratings agencies provide a valuable way of filtering them down to a manageable number that can be reviewed to determine whether they are suitable for inclusion in a portfolio.

These services allow an investor to review the performance of funds from many different perspectives, eg, performance, fees investment style, and risk-adjusted performance. It is possible to screen the databases which are accessible on the websites of these companies for a fund which matches the criteria which one specifies. For example, if one wants to invest in a fund which has exposure to Asian equities excluding Japan, where the investment style adopted is growth from large-cap companies and where the standard deviation of the returns over the last three years has been below a specified amount, this can be achieved by using platforms such as Morningstar.

3.1.3 Broker Reports

All major investment banks and brokers publish research reports on numerous matters which are of interest to investors and fund managers.

These research reports may only be made available to clients of the firm but are also sometimes placed in the public domain.

- These reports may cover macro analysis, eg, a broker's analyst may be showing research and evidence for the prospects for growth in the US economy over the next year or they may be at the micro-level examining the prospects for specific companies.
- There are numerous other investment research firms which provide specialised information on specific sectors of the market as well an overview of sector performance in general.

Securities research is a discipline within the financial services sector. Securities research professionals are known generally as analysts, research analysts, or securities analysts. Those analysts who are engaged by a brokerage firm are usually referred to as sell-side analysts. This differentiates them from buy-side analysts, who are engaged by asset management firms as part of their research efforts before they buy securities rather than sell them.

Securities analysts are commonly divided between the two basic kinds of securities: equity analysts (researching stocks and their issuers) and fixed-interest analysts (researching bond issuers). However, there are some analysts who cover all of the securities of a particular issuer, stocks and bonds alike. Securities analysts are usually further subdivided by industry specialisation (or sectors). Among the industries with the most analyst coverage are technology, financial services, energy, software and retailing. Fixed-income analysts are also often subdivided, with specialised analyst coverage for **convertible bonds**, high-yield bonds, distressed securities and other financial products.

Securities analysts communicate to investors, through research reports and commentary, insights regarding the value, risk and volatility of a covered security, and thus assist investors to decide whether to buy, hold, sell, sell short or simply avoid the security in question or derivative securities.

Securities analysts review periodic financial disclosures of the issuers and other relevant companies, read industry news and use trading history and industry information databases. Their work may include interviewing managers and customers of the companies they follow.

3.1.4 Government Publications

Governments or official sources are a major source of economic news that are closely watched and analysed. Some political announcements, especially relating to **fiscal policy** also have the capacity to cause significant movements in markets.

Authoritative in-depth analysis of financial, economic and social trends is produced by government statistical departments, central banks, international agencies such as the World Bank, IMF and OECD, and by business schools and other academic research organisations.

Governments are often the principal source for economic data on a country and publish a wide range of information that is used for social and economic policy-making. This is often published by the Finance Ministry or by a national statistics agency and is closely analysed to identify economic trends in areas such as GDP, inflation, government spending and the balance of trade.

Some of the economic publications grouped by theme include:

- personal finances
- personal income and wealth
- consumers and customers
- personal debt and insolvencies
- pensions
- national accounts
- **balance of payments**
- national income, expenditure and output
- regional accounts
- satellite accounts
- sector accounts
- prices, output and productivity
- price indices and inflation
- productivity measures
- output
- government receipts and expenditure
- public sector finance
- taxes and revenue
- public spending, and
- local government finance.

All of these reports will be subjected to detailed scrutiny and the markets will often react to the data. The key issue with respect to such data releases is the degree to which the published data has already been discounted by market participants. In other words, traders and investors will form opinions about the level of inflation before the actual release of the monthly inflation data, and only if the numbers presented are notably out of alignment with the expectations, will the market react strongly.

In the US, the monthly report from the Department of Labor on non-farm payrolls is one of the most widely followed by market participants across the globe, as it provides one of the best indicators of the state of the US economy. Traders and investors use the data to make forward forecasts about the prospects for GDP growth and inflation and how this might affect the interest rate decisions by the Federal Reserve. The central bank of a country is also a major supplier of economic data in areas such as interest rate expectations, the global financial environment and risks to financial stability.

Market participants watch the announcements about rates very closely. Unexpected moves in interest rates, both up and downwards, have a large impact across all major asset classes. Bond prices respond well to reductions in short-term rates as do equity markets. The opposite reactions tend to be seen on a rate increase, and more so if the rate hike was unexpected or more than had been expected.

3.1.5 Regulatory Resources

The main source of information reflecting changes in financial regulations which need to be complied with in the financial services sector are those which originate from the country's regulator. In addition it is worth monitoring their publications for general regulatory developments, disciplinary actions, money laundering issues and other developments.

Other areas worth monitoring are investigations into how the financial services sector is being used for money laundering from the Financial Action Task Force (FATF), risk areas highlighted by the Financial Stability Board (FSB) and developments in wealth management regulation in other countries that may impact day-to-day operations.

3.2 Categorising and Presenting Data

The data that is collected can be categorised into two main types:

- Primary data is information or material that is specifically collected for a particular purpose and the conditions under which it was collected and any limitations will be known.
- Secondary data is collected by government agencies and other international bodies which is then distributed in a convenient form and typically requires further analysis if each user is to maximise the value of the information contained within it.

Numerical data can be categorised into that which is continuous, where numbers in a data series can assume any value, or discrete, where the numbers in the data series are restricted to specific values, such as whole numbers.

3.2.1 Populations and Samples

When dealing with data, you must be able to distinguish whether the information relates to an entire population or a sample of a population.

Where a population is being considered then every member or constituent of a particular group will be included in the analysis: all companies contained in the S&P 500 index for instance. A sample of this population, however, as its name suggests, will only contain a selection of US company shares from this index.

It is often the case that populations become so large and cumbersome that using and making inferences from samples is the only viable and cost-effective means of analysing the population. As with all samples, the larger this sample of US shares is, the more representative it will be of the index.

Samples can be either:

- **Random** – that is they are selected randomly such that each constituent has an equal chance or probability of being included by using a table of random numbers to ensure that the selection is free from any bias.
- **Non-random** – the alternative is to employ a non-random method of selection that it is believed will select a more representative sample.

3.2.2 Data Presentation

Raw numerical data can be presented in a wide variety of tabulated and graphical formats to enhance its informational value and ease of interpretation.

Tabulated numerical data often takes the form of a frequency distribution table.

A frequency distribution table involves categorising the number of times that something has occurred in each category of investigation. The results are arranged in order of their size and value and may be grouped into subsets so that the information can be displayed more meaningfully.

For example, you could analyse the age range of the people working in your firm as shown below.

Age Range	No. of People
50 to 60	15
40 to 50	22
30 to 40	26
25 to 30	12
20 to 25	13
Under 20	12
Total	100

As a result of grouping the data, it is possible to detect patterns in the data such as how many people are employed by different age ranges.

By adding the number of times something has occurred it is possible to create a cumulative frequency distribution table. It looks almost the same as a frequency distribution table, but it has added columns that give the cumulative frequency and the cumulative percentage of the results, as well.

Age Range	No. of People	Cumulative Frequency	Cumulative Percentage
50 to 60	15	15	15%
40 to 50	22	37	37%
30 to 40	26	63	63%
25 to 30	12	75	75%
20 to 25	13	88	88%
Under 20	12	100	100%
Total	100		

Knowing how to convey information graphically is important in the presentation of statistics as is knowing what type of graph to use.

There are many different types of graphs that can be used to convey information including:

- **Bar charts** – display information as bars or columns representing each class of data according to their frequency of occurrence and which are useful for comparison of items and relationships or frequency distribution.
- **Pie charts** – a circle divided into different slices each representing a different set of data and which are useful for describing the component parts of the data being presented.
- **Histograms** – look similar to bar graphs but it is the area and not the height of the bar that represents the frequency of occurrence and is often used to illustrate the major features of the distribution of the data in a convenient form.
- **Time series graphs** – display data over time such as a share price.
- **Scattergrams** – are used to determine whether there is a relationship between two variables and are often used to illustrate a correlation or pattern between different assets.
- **Semi-log graphs** – are used to show the rate of change of a variable and so are used to illustrate an accelerating rate of growth over time.

3.3 Measures of Central Tendency and Dispersion

When dealing mainly with raw numerical data or with ordered numerical distributions, you must be able to make inferences about the data being considered and ideally use it to make predictions. Statistics makes this possible by drawing on what are known as measures of central tendency and measures of dispersion.

- Measures of central tendency establish a single number or value that is typical of the distribution – ie, the value for which there is a tendency for the other values in the distribution to surround.
- Measures of dispersion, however, quantify the extent to which these other values within the distribution are spread around, or deviate from, this single number.

3.3.1 Measures of Central Tendency

When you have a set of data and need to summarise it, you will often wish to establish an average that converts the data into a single number that you can use more usefully. The measures of central tendency help capture a single number that is typical of the data. There are three measures of central tendency:

- **Mean** – the average value of all the data.
- **Median** – the middle item that has exactly half the data above it and half below it.
- **Mode** – the most common number that occurs.

The way in which each is calculated is shown below.

Mean or Arithmetic Mean

The arithmetic mean is calculated by adding together all the values in a data set and then dividing that sum by the number of observations in that set to provide the average value of all the data.

Example

If you have six investment funds in your portfolio that produce returns of:

7%, 8%, 9%, 10%, 11% and 12%

Then the average or mean return is (7% + 8% + 9% + 10% + 11% + 12%) ÷ 6 = 9.5%.

The mean is expressed as the following formula:

$$\text{The average or mean } (\bar{x}) = \frac{\text{Sum of all observed values}}{\text{Number of observed values}} = \frac{\Sigma x}{n}$$

Median

The median is the value of the middle item in a set of data arranged in chronological order. It is established by sorting the data from lowest to highest and taking the data point in the middle of the sequence.

Example

For example, with a range of data, as below, the median can clearly be seen and that there is an equal series of numbers both below and above it:

2	5	8	9	12	13	15	16	18
Four numbers				Median	Four numbers			

To calculate the median, you place the values in numerical order and then use the following formula where n equals the number of values in the data set.

$$\frac{(n + 1)}{2}$$

So, as you can see in the above example, there are nine values and the median is the fifth one.

If the data has an even set of numbers then the median is equal to the average of the two middle items and the formula in this case is, therefore:

$$\frac{(\text{Value below the median} + \text{Value above the median})}{2}$$

Example

So, for example, extending the range of data used above we can see that the value below the median is 12 and the value above is 13.

2	5	8	9	12	13	15	16	18	19
				Median = 12.5 $\frac{(12+13)}{2}$					

Mode

The **mode** is the most frequently occurring number in a set of data.

- There can be no mode if no value appears more than any other.
- There may also be two modes (bimodal), three modes (trimodal), or four or more modes (multimodal).

Example

For example, for the following house price values:

£100k; £125k; £115k; £135k; £95k; £100k

£100k is the mode.

Which Measure to Use

Several conclusions can be drawn from the above:

- The mean is the most commonly used measure of central tendency, but it needs to be recognised that the outlier numbers at the extremes of the data influence the result.
- The median is not influenced in the same way and is often used where there are extreme outliers or where there is skewed data that is not normally distributed.
- The mode can be problematic as there may be no mode at all but is useful where categorical data is used, such as where a café has ten different meals on its menu and the mode would represent the most popular.

So, while it is possible that both the mean and median may result in a number or value that is not contained within the distribution, the mode will always be one or more of the observed values.

However, only the mean will be influenced by any extreme values within the distribution as only the mean takes every value into account; the median and mode do not.

The relationship between the mean, median and mode depends on how evenly the values are distributed within the sample or population.

Symmetrical relationship:

- Where the distribution is symmetrical – that is where the ordered data is normally distributed – the three measures of central tendency will produce the same value.
- Each of these measures is positioned at the peak of a symmetrical, continuous, bell-shaped normal curve.

Where the data is asymmetrical, or skewed, however, each measure of central tendency will produce a different value:

- **Negatively skewed frequency** – for a negatively skewed distribution, where a larger number of observed values are concentrated towards the higher end of the distribution, the mode, which always pinpoints where a frequency distribution peaks, will be greater than the median, which will be greater than the mean.
- **Positively skewed frequency** – for a positively skewed distribution, where a greater number of observed values are at the lower end of the distribution, the ordering of the mean, median and mode are reversed.

Under most circumstances, the mean tends to be a more stable measure of central tendency than the median when moving between samples of a population, when distributions are highly skewed with extreme values, such as the distribution of annual investment returns over long time periods, or the distribution of household income, the median often provides a more representative measure of central tendency. This quality is also possessed by the geometric mean.

Geometric Mean

There is another method of calculating the average that we need to consider: the geometric mean.

The geometric mean is similar to the arithmetic mean except that instead of adding the set of numbers and then dividing the sum by the count of numbers in the set, the numbers are multiplied and then the nth root of the resulting product is taken.

Example

If you have a deposit of $10,000 that you expect will earn 5% pa this year, 6% next year and 5.5% in the third year, then you can use the geometric mean to calculate what the average rate of return is. The geometric mean rate of return is calculated as follows:

$$\sqrt[3]{(1.05 \times 1.06 \times 1.055)} - 1 = 0.054992101 \text{ or } 5.499\%$$

With interest reinvested, the balance of the account at the end of the three years will be:

£10,000 x 1.0549921013 = £10,000 x 1.174215 = £11,742.15

This can be proved correct as follows:

Balance	Interest Rate	Interest	End Year Balance
10,000.00	5%	500.00	10,500.00
10,500.00	6%	630.00	11,130.00
11,130.00	5.5%	612.15	11,742.15

The geometric mean can be useful when looking at compound changes such as portfolio returns.

It will always result in a number that is less than the arithmetic mean but despite this shortcoming it has a fundamental use in portfolio management where geometric progressions can be used to establish the compounded value of a variable over time, with the geometric mean then being employed to determine the average compound annual growth rate implied by this cumulative growth.

3.3.2 Measures of Central Dispersion

Having calculated a typical value from the data that we have available, we now need to see how widely spread out the set of data is around this average value. Understanding how widely investment returns vary is the basis of many hedging techniques as well as being an important indicator of portfolio returns.

We can quantify this through the use of dispersion measures and can use measures such as:

- range
- variance
- standard deviation, and
- inter-quartile range.

Standard deviation is used to establish the distribution of values around the mean and the range and inter-quartile range are used for the median. Each of these is considered below.

Range

The simplest measure of dispersion is the range, which is the difference between the highest and lowest values in a set of data.

Example

Let us assume that the following numbers represent the returns from an investment fund over the past ten years:

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Return	13	11	2	6	5	8	7	9	7	6

Using the range measure would indicate that the average returns from the fund had a range of 11 (13 – 2).

The main drawback in using range as a measure of dispersion is that it is distorted by extreme values and ignores the numbers in between.

Variance and Standard Deviation

As we saw in chapter 4, variance measures the spread of data to determine the dispersion of data around the arithmetic mean. Variance takes the difference between the return in each year from the arithmetic mean and then squares it. These are then totalled and the average of them represents the variance.

Variance is useful in that it provides a measure of dispersion and is used to calculate the beta of a stock, but it results in a value in different units than the original. It is obviously much easier to measure dispersion when it is expressed in the same units, and this is known as standard deviation.

Inter-Quartile Range

Another measure of dispersion is the inter-quartile range. The inter-quartile range ranks data such as comparable performance returns from funds against each other, presents the data as a series of quartiles, and then measures the difference from the lowest rank quartile to the highest.

Let us assume that the following figures represent the returns from a number of comparable investment funds. The data is first ranked in order of highest to lowest, the median is identified and the set is then divided into a series of quartiles.

Fund	A	B	C	D	E	F	G	H	I	J	K	
Return	9%	8%	7.5%	7%	6.5%	6%	5.75%	5%	5%	4.75%	4%	
Median = 5.875%												
Quartiles	1st Quartile			2nd Quartile			3rd Quartile			4th Quartile		
Inter-quartile range				⟷								

A fund with a return in the second quartile would, therefore, rank in the top half of fund performances, whereas a fund in the fourth quartile would have delivered returns that have been exceeded by 75% of the rest of the sample.

The inter-quartile range is the difference in returns between the 25th percentile ranked fund and the 75th percentile-ranked fund. The smaller the range, the less difference there is in the funds being examined.

3.4 Fundamental and Technical Analysis

Learning Objective

5.1.2 Understand the main types, benefits, limitations and typical uses of research and reports: fundamental analysis; technical analysis; asset class analysis and selection; stock analysis and selection

Fundamental analysis involves the financial analysis of a company's published accounts, along with an analysis of its management, markets and competitive position. It is a technique that is used to determine the value of a security, by focusing on the underlying factors that affect a company's business.

Technical analysis also seeks to evaluate the value of a company, but instead of analysing a company's **intrinsic value** and prospects, it uses historical price and volume data to assess where the price of a security or market will move in the future. In essence, technical analysts use different quantitative and statistical tools to analyse time-series data of asset prices, behaviours and other characteristics, with a view to discerning recurrences of similar price-development patterns or chart formations.

3.4.1 Fundamental Analysis

Fundamental analysis looks at both quantitative factors such as the numerical results of the analysis of a company and the market it operates in, and qualitative factors such as the quality of the company's management, the value of its brand and areas such as patents and proprietary technology.

The assumption behind fundamental analysis is that the market does not always value securities correctly in the short term but that, by identifying the intrinsic value of a company, securities can be bought at a discount and the investment will pay off over time once the market realises the fundamental value of a company.

Companies generate a significant amount of financial data and so fundamental analysis will seek to extract meaningful data about a company. Many of the key ratios that can be derived from this are considered later in this chapter.

In addition to this quantitative data, fundamental analysis also assesses a wide range of other qualitative factors such as:

- a company's business model
- its competitive position

- the quality and experience of its management team
- how the company is managed, the transparency of available financial data and its approach to corporate governance, and
- the industry in which it operates, its market share and its competitive position relative to its peers.

3.4.2 Technical Analysis

Technical analysis also seeks to evaluate a company but, instead of analysing a company's book value and prospects, it uses historical price and volume data to assess where the price of a security or market will move in the future.

The assumptions underlying technical analysis are:

- The market discounts everything.
- Prices move in trends.
- History tends to repeat itself.

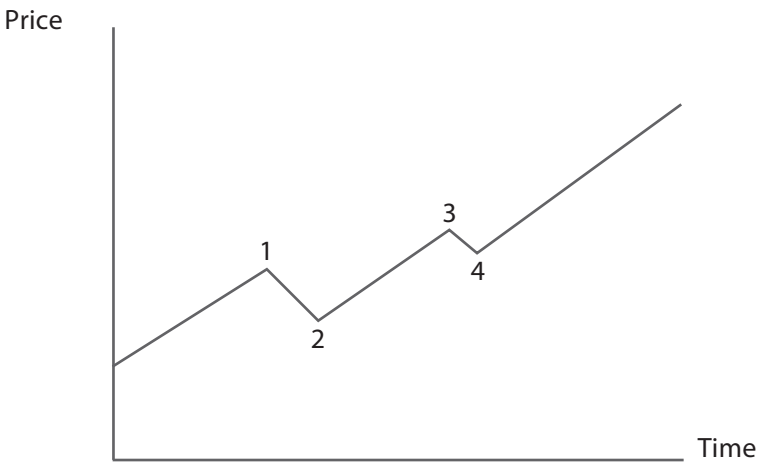
Technical analysis uses charts of price movements along with technical indicators and oscillators to identify patterns that can suggest future price movements. (Indicators are calculations that are used to confirm a price movement and to form buy and sell signals. Oscillators are another type of calculation that indicates whether a security is being overbought or oversold.) It is, therefore, unconcerned whether a security is undervalued and simply concerns itself with future price movements.

One of the most important concepts in technical analysis is, therefore, trend.

Trends can, however, be difficult to identify as prices do not move in a straight line and so technical analysis identifies series of highs or lows that take place to identify the direction of movements. These are classified as uptrend, downtrend and sideways movements.

The following diagram seeks to explain this by describing a simple uptrend.

Simple Upward Trend



Point 1 on the chart reflects the first high and point 2 the subsequent low and so on. For it to be an uptrend, each successive low must be higher than the previous low point, otherwise it is referred to as a reversal. The same principle applies for downtrends.

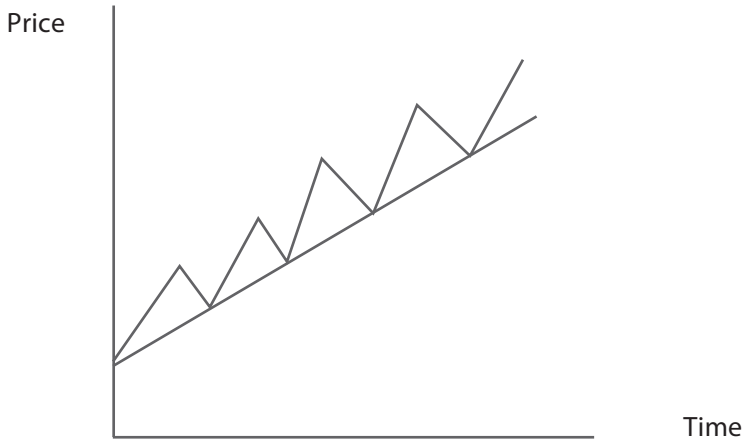
Along with direction, technical analysis will also classify trends based on time.

Primary movements are long-term price trends, which can last a number of years. Primary movements in the broader market are known as bull and bear markets: a bull market being a rising market and a bear market a falling market. Primary movements consist of a number of secondary movements, each of which can last for up to a couple of months, which in turn comprise a number of tertiary or day-to-day movements.

The results of technical analysis are displayed on charts that graphically represent price movements. After plotting historical price movements, a trendline is added to clearly show the direction of the trend and to show reversals.

The trendline can then be analysed to provide further indicators of potential price movement. The diagram below shows an upward trend line which is drawn at the lows of the upward trend and which represents the support line for a stock as it moves from progressive highs to lows.

Upward Trendline



This type of trendline helps traders to anticipate the point at which a stock's price will begin moving upwards again. Similarly, a downward trendline is drawn at the highs of the downward trend. This line represents the **resistance level** that a stock faces every time the price moves from a low to a high.

There are a variety of different charts that can be used to depict price movements and some of the main types of charts will be considered.

Line Charts

Line charts are where the price of an asset, or security, over time is simply plotted using a single line. Each point on the line represents the security's closing price. However, in order to establish an underlying trend, chartists often employ what are known as 'moving averages' so as to smooth out extreme price movements. Rather than plot each closing price on the chart, each point on the chart instead represents the arithmetic mean of the security's price over a specific number of days. Ten, 50, 100 and 200 moving-day averages are commonly used.

Point and Figure Charts

These record significant price movements in vertical columns by using a series of Xs to denote significant up moves and Os to represent significant down moves, without employing a uniform timescale. Whenever there is a change in the direction of the security's price, a new column is started.

Bar Charts

Bar charts join the highest and lowest price levels attained by a security over a specified time period by a vertical line. This time scale can range from a single day to a few months. When the chosen time period is one trading day, a horizontal line representing the closing price on the day intersects this vertical line.

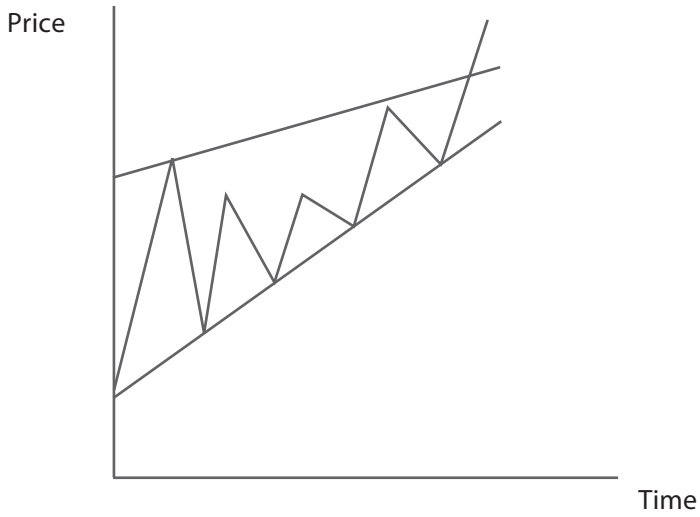
Candlestick Charts

Closely linked to bar charts are candlestick charts. These again link the security's highest and lowest prices by a vertical line, but they employ horizontal lines to mark both the opening and closing prices for each trading day. If the closing price exceeds the opening price on the day, then the body of the candle is left clear, while if the opposite is true it is shaded.

Technical analysis also contains channel lines, which is where two parallel lines are added to indicate the areas of support and resistance which respectively connect the series of highs and lows. Users of technical analysis will expect a security to trade between these two levels until it breaks out, when it can be expected to make a sharp move in the direction of the break. If a support level is subsequently broken, this provides a sell signal, while the breaking of a resistance level, as the price of the asset gathers momentum, indicates a buying opportunity. These are known as 'breakouts'.

An example of such a breakout pattern is the triangle which is shown below. Here, price movements become progressively less volatile but often break out in either direction in quite a spectacular fashion.

Breakout Pattern

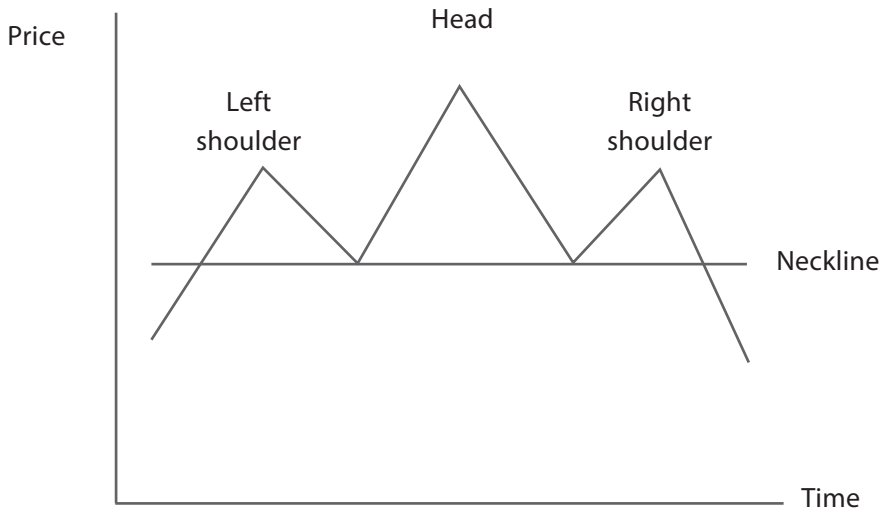


Other continuation patterns include the rectangle and the flag.

Chartists typically use what are known as relative strength charts to confirm breakouts from continuation patterns. Relative strength charts simply depict the price performance of a security relative to the broader market. If the relative performance of the security improves against the broader market, then this may confirm that a suspected breakout on the upside has or is about to occur.

However, acknowledging that prices do not always move in the same direction and trends eventually cease, technical analysts also look to identify what are known as reversal patterns, or sell signals. Probably the most famous of these is the head and shoulders reversal pattern, as the following example shows:

Head and Shoulders Reversal Pattern



3.4.3 The Difference between Fundamental and Technical Analysis

Fundamental and technical analysis are the two main methodologies used for investment analysis and, as you can see from comparing their key characteristics, they differ widely in their approaches.

The principal differences between them can be summarised as follows:

- Analysing financial statements versus charts:
- At a basic level, fundamental analysis involves the analysis of the company's balance sheet, cash flow statement and income statement.
    - Technical analysis considers that there is no need to do this as a company's fundamentals are all accounted for in the price, and the information needed can be found in the company's charts.

- Time horizon:
- Fundamental analysis takes a relatively long-term approach to investment.
    - Technical analysis uses chart data over a much shorter timeframe of weeks, days and even minutes.

- Investing versus trading:
- Fundamental analysis is often used to make long-term investment decisions.
    - Technical analysis is often used to determine short-term trading decisions.

Although the approaches adopted by technical and fundamental analysis differ markedly, they should not be seen as being mutually exclusive techniques. Indeed, their differences make them complementary. Used collectively, they can enhance the portfolio management decision-making process.

4. Factors Influencing Markets

Learning Objective

5.1.3 Understand the key factors that influence markets and sectors: geopolitical, financial and economic events impacting on regional and global financial markets; interrelatedness of exchange rates, interest rates, commodity prices and inflation/deflation; volume, liquidity, and nature of trading activity in domestic and overseas markets; regulatory regimes – enforcement and effectiveness; publication of announcements, research and ratings

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It is an adage among investment professionals that markets hate uncertainty. Uncertainty is effectively a synonym for risk, as risk arises from the uncertainty of outcomes. As investors, each time we decide to purchase a security or invest in an opportunity, the outcome is uncertain in the same way that any future event is. Therefore, as well as economic growth trends, there are other key trends that a wealth manager should remain abreast of as they may affect investment opportunities.

4.1 Geopolitical, Financial and Economic Events

International Events

International political developments can jolt economies, sending shock waves through investment markets. Wars or fear of conflicts can lead to major changes of sentiment among investors and traders and the risk of sovereign default can also have seismic effects on economies and markets.

International relations have become increasingly important as economies and markets have become more globally integrated and interdependent. Financial markets and equity markets in particular, have become more correlated, so investors must be aware of international developments when allocating assets.

Financial Bubbles

Financial bubbles happen when investors lose sight of fundamental values and buy shares or other assets simply because they expect prices will continue to rise. Crashes occur when investors sell shares because they think prices will continue to fall, or if they are 'forced sellers' due to regulations or losses.

These speculative episodes are a recurring theme of financial history. They generally occur when excess liquidity allows investors to magnify the financial repercussions of real changes, like technological breakthroughs generating bubbles, or political unrest generating crashes.

Demographics

Around the world people are living longer and birth rates are declining, leading to ageing populations with fewer workers and more people in retirement. This can have major long-term effects on investment markets and opportunities.

Many countries face a significant ageing of their population and its workforce. This creates both opportunities and challenges:

- Many countries have to increase the age at which a state pension is paid because of the rising costs of funding. This increases the opportunities for private sector provision of pension schemes.
- For some segments of the population, this increased longevity is leading to higher average wealth holdings, as working households increase their savings in order to fund a longer retirement. This offers the opportunity for greater wealth management services.

Ageing western populations are having a significant impact on equity markets as baby boomers move through the peak years of their lives in terms of investment. This effect is particularly visible in the US, where investors now hold more in mutual funds than on deposit. The ageing of the West should also boost particular sectors catering for a more elderly population – like financial services, tourism and leisure, and healthcare products and services.

Technological Change

The development and widespread use of new technology has radically altered the way in which industry operates over the last 25 years or so.

The development of new products has enabled and improved techniques allowing goods and services to be produced more efficiently. New sectors and industries have been created that offer investors the potential of high growth, but which can often be quite risky investment opportunities.

Technological change emerges from the systematic application of science and technology to the production of goods and services.

A country's capacity for technological change is often measured by the proportion of national output devoted to research and development. In practice, the key to national economic performance is its ability to adopt cutting-edge technology which in turn hinges on the overall education and skills of the workforce.

Technological change creates new fast-growing industries and transforms existing ones, providing the scope and a spur for major cost savings. Developments in Artificial Intelligence (AI) are currently leading the charge in this area.

4.2 Interrelatedness of Exchange Rates, Interest Rates and Inflation

The world economy is now highly interconnected so that changes in one country are felt in other countries around the world. International trade and the free movement of technology are creating a global economy in which consumers can buy goods from anywhere in the world.

International trade is a major driver of economic performance in countries and impacts on how assets are allocated geographically as investment managers try to target those countries that can benefit most. Capital and technology from the developed world are enhancing the growth of emerging economies, and international trade creates opportunities for them to sell their products across the world. This creates efficiencies for their industries and makes them raise their quality to global standards but places pressure on traditional industries in developed countries.

In an **open economy**, where international trade accounts for a significant share of GDP, having the 'right' exchange rate is imperative to its international competitiveness.

An exchange rate is the price of one currency in terms of another. The overall effect of a change in the exchange rate on the trade balance, assuming that demand is price elastic and all other factors such as productivity are held constant, is as follows:

- A rise in the nominal value of a currency will reduce a trade surplus or worsen a trade deficit as exports will be less competitive, unless exporters reduce their prices; whereas imports will be more competitive, unless exporters to that country raise their prices.
- A fall in the nominal value of a currency will increase a trade surplus or reduce a trade deficit as exports will be more competitive, unless exporters raise their prices; whereas imports will be less competitive, unless exporters to that country reduce their prices.

By taking account of whether exporters and importers alter their prices when faced with a change in the nominal exchange rate, we can establish whether a country's overall international competitiveness has improved or declined.

Real Exchange Rates

One way of establishing international competitiveness is by calculating the real exchange rate. For example, the UK's real exchange rate relative to that of the US can be formally stated as:

$$\text{Real exchange rate} = \frac{\text{UK price level}}{\text{US price level}} \times \frac{\text{USD}}{\text{GBP}}$$

A rising real exchange rate signifies a reduction in international competitiveness. So, for example, if UK inflation is rising at a faster rate than in the US without a compensating weakening of the nominal exchange rate, the UK's international competitiveness declines. The precise effect on the trade balance and the revenues of importing and exporting firms will of course also depend on factors such as the price elasticity of these internationally traded goods and services, any productivity improvements in those industries and the speed with which consumers substitute goods and services when faced with a change in price.

As consumers are typically slow to change their spending patterns when faced with changing prices, the impact of a change in the real exchange rate on the trade balance is never instantaneous. In fact, a weakening of the nominal exchange rate will immediately raise import prices while reducing export prices, thereby worsening the trade balance. However, once consumers adjust to these new relative prices, the trade balance will improve. The trade balance, therefore, tends to experience a J-curve effect.

Direct investment by multinational companies in overseas markets has been a powerful driver of globalisation. This means that investors can take advantage of globalisation by investing in foreign markets through the shares of multinational companies with large overseas operations as well as through emerging market funds.

4.3 Trading Activity

The presence or absence of liquidity in financial markets is one of the most important conditions for transactions to take place.

Economists have really not provided a satisfactory account of liquidity, but rather assume that it will be present in markets. The term refers to the depth of interest from both buyers and sellers for a security and if, as occurs from time to time – as in Q4 2008 – there is an absence of interest from buyers in many securities, a market will become lopsided and the desire by many to sell their shares and bonds at the same time causes disorderly market behaviour and results in rather sudden and abrupt drops in prices of securities. In its more extreme form, this can be referred to as a market crash. The classic example of such an event took place in October 1987, when global markets dropped precipitously and the NYSE fell by more than 20% in a single session on Monday 19 October of that year, with other indices registering similar falls.

The vital role of liquidity has been touched upon and it is worth pointing to the different motives of the investor and the speculator or trader.

- The investor, such as a pension fund or mutual fund manager, may be purchasing (or selling) securities as part of a long-term portfolio management exercise.
- The speculator or trader may be interested in trying to profit from short-term movements in the prices of securities without the intention of holding the securities for an extended period.
- Speculators and traders help to provide liquidity to a market which would see less activity if it were just long-term investors that were conducting the activity.
- Trading activities create larger volumes in the markets, and thereby enhance the ability of the long-term investors and allocators of capital to buy and sell without moving the market excessively.

This is a somewhat controversial topic, as there are some who would argue that the activity of speculators, rather than providing greater liquidity and acting as a way of smoothing price fluctuations, may actually lead to larger moves in prices or volatility, which has the consequence of destabilising markets.

There is growing evidence that the highly inter-connected nature of markets today and the global investment strategies followed by large investment banks and asset managers reveal a high degree of co-movement or correlation between major global asset classes. The consequences can be seen each day in the manner in which certain asset classes will move together depending on the degree of risk that the short-term trading desks are willing to take.

For example, and to engage in simplification, it is often possible to discern a clear pattern whereby when markets become more anxious, there is a movement towards the US dollar and away from weaker currencies. Investors/traders will also purchase US Treasury instruments and shun emerging markets and commodities. On the opposite side, when there is more of an appetite for buying riskier assets, the converse will tend to be the case. Capital will move away from the safe harbour of the US dollar and US Treasuries, global equity indices will tend to move higher, the commodity currencies will often move up sharply against the dollar and emerging markets will see capital inflows.

A lot of these movements will be of short-term duration, but it is also possible to discern similar dynamics at work with respect to global asset allocation decision-making.

4.4 Regulatory Regimes

Capital markets, from a short-term perspective, are highly sensitive to the publication of certain information and access to transparent information.

4.4.1 Disclosure Rules

Each country will have a set of rules that governs the process by which companies disclose information about their performance or significant changes with investors and the general public in such a way that prevents the orderly functioning of markets. Disclosure rules typically make provisions to ensure that information relating to publicly listed securities is properly handled and disseminated.

The rules apply to issuers of securities and are designed to:

- Promote prompt and fair disclosure of relevant information to the market.
- Set out some specific sets of circumstances in which an issuer can delay the public disclosure of inside information.
- Require that an issuer establishes effective arrangements to deny access to inside information to anyone other than those who require it for the exercise of their functions within the issuer.

Stock exchanges will also have requirements that listed companies must observe that govern the conduct of directors of listed companies and the disclosure of information necessary to protect investors, maintain an orderly market and ensure that investors are treated fairly.

When a company applies for a listing on a stock exchange, it must comply with a series of rules and once listed comply with a series of ongoing obligations. Among other things, these require a company to promptly make public all price-sensitive information and issue the annual and interim reports and accounts to shareholders within a set time frame.

Price-sensitive information is information which would be expected to move the company's share price in a material way once in the public domain.

- This includes details of any significant change to a company's current or forecast trading prospects, dividend announcements, directors' dealings and any notifiable interests in the company's shares.
- A notifiable interest is where a shareholder or any parties connected to the shareholder has a certain percentage interest (typically 3% or 5%) in the nominal value of the company's voting share capital. If that is the case, they must inform the company of their holding within two business days or some other set period.

4.4.2 Pre- and Post-Trade Transparency

For markets to operate efficiently and fairly, potential investors need to be able to see what is available to trade and have access to what trades have taken place and at what prices. This is known as pre-trade transparency and post-trade transparency. Transparency in securities markets can be defined as the degree to which information regarding quotations for securities, the prices of transactions, and the volume of those transactions is made publicly available.

Transparency is an essential determinant of an effective market and regulators and exchanges work to ensure there is the greatest degree of transparency to permit the investor to make an informed investment decision. So, transparency requires the dissemination of transaction reports and quotations on a prompt, real-time basis.

At its broadest level, pre-trade transparency includes information that accurately indicates the volume and price of prospective orders. In markets that have automated electronic order books, these display the entire contents of the **limit order** book for a particular security and so permit complete transparency. In other markets, however, there may be lower levels of transparency and quotations might be limited to the highest bid and lowest offer.

Post-trade transparency refers to the dissemination of the price and volume of completed transactions from all markets trading that security. Although quotes may help investors decide where and when

to trade, transaction reports help investors determine whether the quotes are reliable and help them assess the quality of the markets and the execution of transactions.

Additionally, without trade and volume information, there are few warnings of impending market trends. Market participants cannot respond quickly to selling or buying surges because they do not see them happening.

4.4.3 Market Misconduct

Preventing abusive, manipulative and illegal trading practices is essential to ensure orderly markets where buyers and sellers are willing to participate because they feel confident in the fairness and accuracy of transactions. As a result, regulatory regimes require regulators, exchanges and firms to undertake extensive procedures to prevent such activity and to undertake market surveillance to ensure the integrity of markets.

Market misconduct in its simplest terms is the deliberate attempt to interfere with the operation of the market. The interference can take many shapes, however, the ultimate goal ranges from making money to preventing losses. Examples of market misconduct include but are not limited to insider dealing, false trading, price rigging, the disclosure of information about prohibited transactions, the disclosure of false or misleading information inducing transactions, stock market manipulation, and other similar actions where market interference results in profits.

An example of the market abuse rules in Europe is shown below.

Market Abuse

In Europe, market abuse relates to behaviour by a person or a group of people working together and which satisfies one or more of the following three conditions:

- The behaviour is based on information that is not generally available to those using the market and, if it were available, it would have an impact on the price.
- The behaviour is likely to give a false or misleading impression of the supply, demand or value of the investments concerned.
- The behaviour is likely to distort the market in the investments.

In all three cases, the behaviour is judged on the basis of what a regular user of the market would view as a failure to observe the standards of behaviour normally expected in the market. Examples of market abuse are shown in the table below.

Conduct	Explanation
Insider dealing	• When an insider deals, or tries to deal, on the basis of inside information. (Improper disclosure and misuse of information are kinds of insider dealing.)
Improper disclosure	• Where an insider improperly discloses inside information to another person.

Conduct	Explanation
Misuse of information	• Behaviour based on information that is not generally available but would affect an investor's decision about the terms on which to deal.
Manipulating transactions	• Trading, or placing orders to trade, that gives a false or misleading impression of the supply of, or demand for, one or more investments, raising the price of the investment to an abnormal or artificial level.
Manipulating devices	• Trading, or placing orders to trade, which employs fictitious devices or any other form of deception or contrivance.
Dissemination	• Giving out information that conveys a false or misleading impression about an investment or the issuer of an investment, where the person doing this knows the information to be false or misleading.
Distortion and misleading behaviour	• Behaviour that gives a false or misleading impression of either the supply of, or demand for, an investment; or behaviour that otherwise distorts the market in an investment.

Rules on market misconduct may vary from country to country, but given the global nature of today's markets, there is increasing cooperation between regulators in different countries as market misconduct can be undertaken by someone based anywhere in the world. Enforcement trends also make it clear that regulators are increasingly sharing information across borders about the firms they monitor.

4.5 Relationship between Securities and Derivatives Markets

Learning Objective

5.1.4 Understand the interactive relationship between the securities and derivatives markets, and the impact of related events on markets

A derivative is a financial instrument that is derived from something else. A derivative is, therefore, a financial instrument whose price is based on the price of an underlying asset. This underlying asset could be a financial asset or **commodity** – examples include bonds, shares, stock market indices and interest rates; for commodities they include oil, silver or wheat. Most derivatives are used by institutions to hedge risk or **speculate** on price changes in the underlying asset.

There are many different types of derivatives, but they can usefully be classified into four main types. They are:

- forwards
- futures

- options, and
- swaps.

By its nature, a derivative is a contractual asset which is traded actively, some more than others, and where the valuation of the derivative is largely, if not completely, influenced by price movements in the underlying asset. In addition to price changes of the underlying, other variables, such as interest rates and price volatility, (ie, variability in the price behaviour) will also be factored into the pricing and valuation of derivatives.

The value and, therefore, the price of all derivatives is based on, and has a close relationship with, the price of its underlying security. If this were not true, the markets would be full of arbitrage opportunities. While these opportunities do exist in certain conditions, they do so for only a short period and are relatively small, since the markets are 'efficient'.

Securities and derivatives respond in the same way to change and uncertainty. In many cases, derivatives might seem to be the first to react, for example to increased uncertainty, which results in higher volatility in their price; however, any difference will be small and short-lived.

All of the key factors that influence a security's price, such as trading volume, liquidity, news announcements and market sentiments, will have the same effect on the related derivatives price. The recent advances in communication and inter-market dealing have ensured that both markets move together.

As a derivative is a financial instrument based on the price of an underlying asset, intuitively, we can see that there must be some connection between the price of the derivative and the underlying asset. We will look at futures as an example of this in the next section.

4.5.1 Derivatives and Underlying Asset

A future is a legal agreement between a buyer and a seller to make or take delivery of a specific quantity and quality of a specified asset on a fixed future date at a price agreed today. We can see straight away from this definition of a future that there is a relationship between the derivative and the underlying asset. The price agreed today for future delivery is fundamentally linked to the underlying asset and the price of the future will be determined by a combination of its fair value and the impact of supply and demand.

Fair value is the theoretical price at which the futures contract should be trading at to reflect today's cash price and the cost of carry, so:

- Fair value of the future = cash price + cost of carry.
- The cost of carry includes finance costs, storage costs and insurance.

As an example, we will look at a future contract on copper. Copper is a highly versatile metal that can conduct electricity and with most of the world's electrical and communication infrastructure dependent on the metal, copper is in consistent demand. Copper futures are standardised, exchange-traded contracts in which the contract buyer agrees to take delivery from the seller of a specific quantity of copper at a predetermined price on a future delivery date.

Fair Value

Investors can trade copper futures on the **London Metal Exchange (LME)** and the standard contract size is 25 tonnes. The current cash price of copper is US$9,155 per tonne and the price of the three-month copper future is $9,180.

- A user who requires copper in three months' time could buy copper in the cash market, pay $228,875 (25 tonnes * $9,155) and hold it until needed in three months' time. They would then incur the costs of storage and insurance plus the finance costs of paying for the copper for that period.
- The alternative is to go long the future, but the seller holding the asset will require a higher price for future delivery to compensate them for the costs involved. The user would need to pay $229,500 for one contract (25 tonnes * $9,180).
- The difference is the cost of carry of $625.

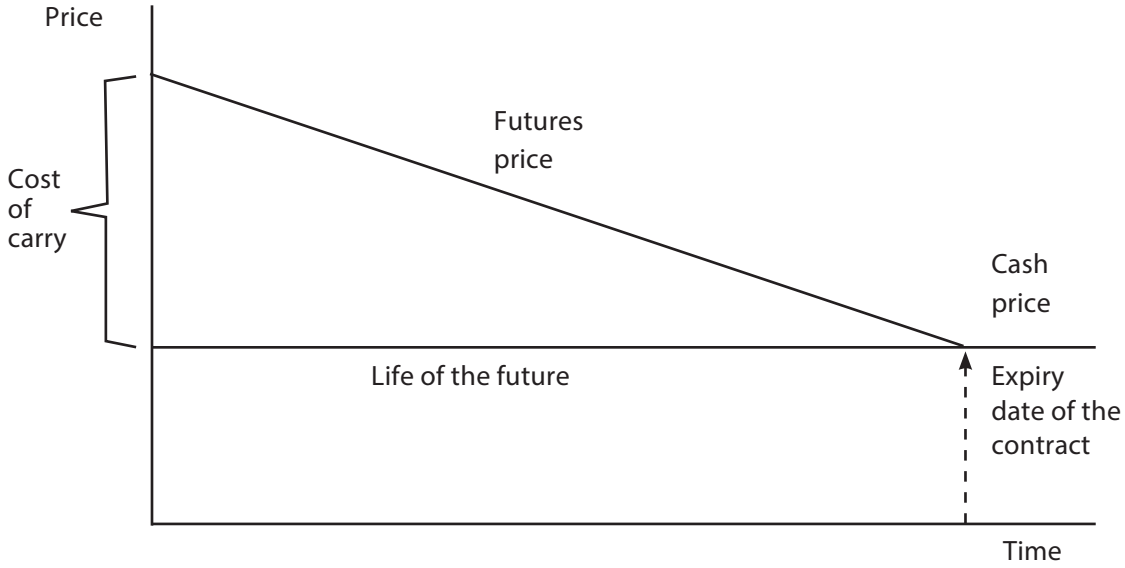
So, assuming that the copper futures price represents fair value, the buyer is indifferent as to whether to buy in the cash market or the futures market; it is at fair value. However:

- If the futures price was lower at $9,170, the differential between the cash price and futures price is less than the cost of carry so the investor would be better off buying the future rather than buying the asset and holding it.
- Cash price = $228,875 + cost of carry $625 = $229,500.
  - Future = $9,170 × 25 = $229,250.

- If the futures price was $9,190, it would be better to buy the asset and hold it as the differential is greater than the cost of carry.
- Cash price = $228,875 + cost of carry $625 = $229,500.
  - Future = $9,190 × 25 = $229,750.

Basis is used to measure the difference between cash and futures prices and can change as a result of supply and demand, cost of carry and the time remaining to **expiry**. Over time, as the futures contract approaches maturity, the futures price will converge with the spot cash price as shown in the following diagram.

Convergence

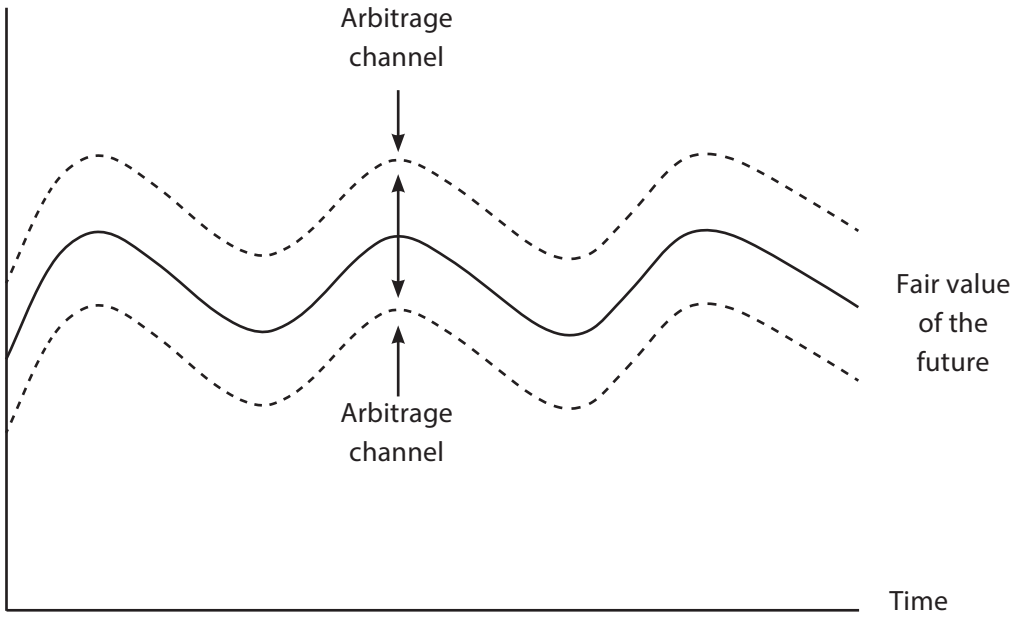


As the cost of carry determines the differential between the cash price and the fair value of the future and is the cost associated with holding the asset from now until expiry, it follows that as the point of expiry approaches, the costs of carry diminish and the differential must narrow. At expiry, the cost of carry is zero, so the cash and futures prices must converge over the life of the future until they meet at expiry.

Fair value is the theoretical assumption of where a futures contract should be priced given such things as the current index level, index dividends, days to expiration and interest rates. The actual futures price will not necessarily trade at the theoretical price, as short-term supply and demand will cause price to fluctuate around fair value. Price discrepancies above or below fair value should cause arbitrageurs to return the market closer to its fair value.

The futures price can move away from its fair value without there being any arbitrage activity, as long as the movement is less than the trading costs that would be incurred. This creates what is referred to as an arbitrage channel – the range of prices within which there will be no possibility to arbitrage owing to transaction costs outweighing any potential benefits. If, however, the futures price moves beyond the limits of the channel, arbitrage becomes profitable. The arbitrage activity forces the futures price back into the channel and ensures that the futures price does not move too far away from fair value.

Arbitrage Channel



As we can see from this description of a future, its price is fundamentally linked to that of the underlying asset and explains the strong correlation between cash and futures prices.

4.5.2 Interaction between Derivatives and Cash Markets

The interaction between futures and cash markets can be seen by looking at how the futures markets influence the opening of stock markets.

Futures markets are often used to predict the direction in which cash markets will move. One of the reasons for this, is that futures markets operate 24 hours a day compared to the specified times in which stock markets are open. The trading on futures markets, therefore, provides a barometer indicating the likely direction of the opening moves in a market.

This can be seen by looking at the influence that global markets have on the opening of the S&P 500 index in the US. The S&P 500 future and its component stocks are traded globally and trading activity will move the price of the future during the time when US markets are closed.

- The first markets to open are the Asian markets including Australia and New Zealand, which trade between 18:00–03:00 EST.
- Europe opens at 03:00 and trades until 09:30 EST.
- US markets open at 07.30 EST and overlap trading in Europe for the first two hours. If the future has been trading down overnight, then the S&P 500 index will be lower at the opening.
- As the US markets close, a new day is starting over in Asia and the cycle begins anew.

Diagrammatically, this can be seen in the following diagram. It shows a chart of the S&P 500 future on the left and the S&P 500 index on the right. The futures chart shows the trading that takes place in Asia and Europe and as the future tracked downwards. As the US market opened, the S&P 500 index on the right opened lower to track overnight movements in what is referred to as a 'gap down' at the open.

Global Trading

Source: Fidelity

4.6 Fixed Interest Markets

Learning Objective

5.1.5 Understand the interactive relationship between different forms of fixed interest securities and the impact of related events on markets

There are numerous forms of fixed-interest securities, and these cover a wide range from sovereign issues, **Eurobonds** and corporate bonds. Fund managers will almost invariably want to have a sizeable portion of their portfolio allocated to fixed income securities, and they could include government bonds as well as both investment-grade corporate bonds and high yield bonds.

Much attention is placed by asset managers on the relationships which exist between the different kinds of fixed income securities, and much of this analysis is based upon what are commonly called 'spread' relationships.

Spreads can exist between the same type of fixed-income security, for example, between different maturities of that security, the most obvious example being the relationship between government bonds of different maturities. On the other hand, there are many kinds of spreads, involving different securities from different issuers with contrasting credit qualities, and these are analysed and followed closely by asset allocators.

The broad kinds of spreads which are most relevant to asset managers fall into the following categories:

- term spreads
- default spreads
- credit quality spreads
- sovereign spreads.

4.6.1 Term Spreads

The term 'spread' is the difference between the yields of long- and short-dated bonds. Often used for this purpose for investors is the yield spread between a two-year note and a ten-year Treasury. The key value which is used for calculating the spreads is the gross redemption yield or the yield to maturity.

The gross redemption yield (GRY) of a two-year note can be expressed in basis points. For example, a two-year note which has a GRY of 1.5% can be quoted as being a yield of 150 basis points. Let us say that the GRY on a ten-year Treasury is quoted at 3.5% or 350 basis points; then the 2/10 spread can be stated simply as the difference between the two yields, in this case simply as 200 basis points.

There are many reasons why following this particular spread can be important for investment managers.

Trading the Spread

Some reasons have to do with the ability to trade the spread. For example, if one believes that the spread is going to widen to say, 250 basis points, then the fund manager could decide to have long positions in the two-year note and short positions in the ten-year Treasury. Most likely the widening of the spread would be based upon an increase in yield in the ten-year 'leg' of the spread, and an increase in yield would result from a decrease in the price, which will benefit someone who has taken a short position in the ten-year 'leg' of the spread. All that matters is that the differential or spread moves in accordance with the anticipation of a widening of the spread and the trade can be profitable.

In general terms, the term structure of interest rates, or yield curve, is often regarded as a leading indicator of economic activity, or at least captures the market's perception of the future rate of economic activity.

- In the growth part of an economic cycle, 2/10 spread measure tends to be more positive, with an upward-sloping yield curve with long-bond yields exceeding short-bond yields. This spread will often exceed 200 basis points and could go much higher depending on the overall level of interest rates.
- At the onset of a recession, the 2/10 measure tends to flatten and can even become negative if the yield curve inverts.

The 2/10 spread can, with some allowance for other factors relating to the role of the public finances, therefore be used to predict the position in the economic cycle and so what kind of interest rate environment lies ahead.

Careful analysis of the term spread could also be used to determine when a yield curve ride may be most beneficial and to undertake spread trades or engage in a form of trading activity known as 'riding the yield curve'.

4.6.2 Default Spread

The default spread is the difference between the yields of investment grade corporate bonds and government bonds.

In assessing the overall investment risk from a credit perspective of fixed-income securities in general, it is customary to compare the GRY on a ten-year investment grade bond – perhaps limited to those of A– and above – with the GRY of a ten-year government bond. For a US-based investor, the comparison would be between an investment grade corporate bond and the yield to maturity on a ten-year US Treasury bond.

As seen above, it is customary to quote this spread in basis points, and the prevailing level of this spread can provide a good barometer of the market's perceptions regarding the overall creditworthiness of the corporate sector.

Government bonds are assumed in most financial theory to be risk free, and, if the spread between the yield on a ten-year government bond and the equivalent yield for a ten-year corporate bond is relatively speaking rather low or narrow, then this low spread will reflect the perception that the corporate fixed income sector is not considered to be at much risk.

In other words, in a buoyant economy, the default spread tends to narrow, whereas in a recession, the spread tends to widen. This widening can be especially acute during times of financial crisis such as were seen in Q4 2008.

As before, the default spread can, if used judiciously, be helpful in predicting the position in the economic cycle for market timing purposes.

4.6.3 Credit Quality Spreads

Another variation on this theme is to consider the spread between high-yield bonds and investment-grade corporate bonds, or the spread between so called 'junk bonds' and government bonds.

- As an example, let us suppose that the typical GRY for a AAA corporate bond is quoted at 5% and the average GRY for a high-yield corporate is quoted at 8%; then the yield spread for investment grade to junk can be quoted as 300 basis points.
- As an alternative approach, the spread can be quoted between the GRY for high-yield corporate and government bonds of similar maturities.

During the financial crisis of 2008, there were two factors at work which caused the spread between high-yield and government bonds to widen rather dramatically. At the height of the banking crisis in 2008, there was considerable anxiety among asset managers about the possibility of bankruptcies and economic dislocation in general. This anxiety produced a 'flight to safety' in which asset managers

sold many assets which were perceived to be of inferior quality and invested the proceeds from such liquidations into government securities.

For example, at the end of 2008, the GRY on the US ten-year Treasury note was barely 2% or 200 basis points (similarly, extremely low yields were seen on **gilts**, bunds and in most government bond markets), while the typical yield on a '**junk bond**' reached up into the mid-teens. In such circumstances, the spread between government and junk widened substantially from a more typical value of 200/300 basis points to as high as 1,500 basis points.

Admittedly, there were some very extreme spreads between many kinds of fixed-income securities during the 2008 crisis, and many astute investors and traders decided to purchase those securities which were very much out of favour as they anticipated that, given an eventual return to more normal circumstances, the spreads would revert back to their more typical levels. By purchasing out-of-favour speculative and non-investment-grade corporate bonds during the early part of 2009, many fund managers were able to make huge profits when the liquidity of corporate bond markets returned to more normal conditions.

Another feature of this spread relationship is to observe that the yields on government bonds will tend to increase when there is less anxiety about systematic (and systemic) risk and less desire to seek out the safe haven of Treasury securities.

4.6.4 Sovereign Spreads

There is one further type of spread which is becoming increasingly important for investment managers to follow, and this one relates to the difference between the yields available on the government bonds of different sovereigns.

Historically, several governments have defaulted on their debt obligations, with Argentina and Russia being two of the most notable. More recently, the issue of potential default became especially significant with the much publicised difficulties for peripheral states in the Eurozone in terms of their creditworthiness.

One method for determining the creditworthiness of different sovereign issues is by quoting the spread between the issues of governments which are perceived by the markets as being extremely low risk and the yields of more problematic sovereigns.

Bond Spreads

The following table shows the yield on ten-year bonds from a range of sovereign governments as at July 2025 and the spread to the German bund and US Treasuries.

Country	Latest yield	Spread vs bund	Spread vs T-notes
Australia	4.29%	1.68	-0.12
Austria	2.97%	0.36	-1.44
Belgium	3.16%	0.55	-1.25
Canada	3.52%	0.91	-0.90
Denmark	2.54%	-0.08	-1.88
Finland	3.00%	0.38	-1.42
France	3.30%	0.68	-1.12
Germany	2.61%	-	-1.80
Greece	3.32%	0.71	-1.09
Ireland	2.87%	0.26	-1.54
Italy	3.48%	0.87	-0.93
Japan	1.53%	-1.08	-2.88
The Netherlands	2.79%	0.18	-1.62
New Zealand	4.61%	2.00	0.20
Portugal	3.05%	0.44	-1.36
Spain	3.22%	0.61	-1.19
Sweden	2.37%	-0.24	-2.04
Switzerland	0.42%	-2.19	-3.99
UK	4.61%	1.99	0.19
US	4.36%	1.75	-

Source: Financial Times

Factors which will affect sovereign spreads are clearly related to macroeconomic circumstances in the various economies and, specifically, the differences in such factors as GDP growth rates, the level of public finance deficits and the competitiveness of the two economies for which the spread is quoted.

Central Government Debt

One way to get a picture of the level of borrowing of a country is through external debt. External debt is a measure of a total debt in a country that is owed to creditors outside that country; foreign liabilities, capital plus interest that the government, institutions and people within a nation's borders must eventually pay. In short, this number extends beyond simply government debt, but also debt owed by corporations and individuals.

A useful measure of a country's debt position is by comparing gross external debt to GDP. By comparing a nation's total debt to what it produces, this ratio can be used to help determine the likelihood that a country as a whole will be able to repay its debt.

The following table shows data from the OECD on GDP as a % of general government debt for the G7 countries as at the end of 2021.

Central Government Debt as a % of GDP										
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Canada	92.0	92.4	90.9	90.8	90.2	118.1	112.6	104.2	107.7	110.8
France	96.9	98.1	98.7	98.5	98.1	114.8	112.7	111.3	109.7	113.1
Germany	71.2	68.3	64.0	60.8	58.7	68.0	68.1	65.0	62.9	63.9
Italy	134.7	134.2	133.7	134.1	133.8	154.3	145.7	138.3	134.6	135.3
Japan	228.3	232.4	231.3	232.4	236.4	258.4	253.7	248.3	240.0	236.7
UK	87.9	87.8	86.7	86.3	85.7	105.8	105.1	99.6	100.4	101.2
US	103.9	106.8	105.7	107.0	108.2	132.0	124.7	118.8	119.0	120.8

Source: IMF World Economic Outlook Database, April 2025

4.6.5 The Impact of Events

For a fund manager, the impact of many kinds of events will lead to asset re-allocations among different securities in general, and more specifically to the mix they hold of different fixed-income securities. Such reallocations are often referred to as 'policy switching'.

Some of the factors which will instigate policy switches can be summarised as follows.

Factors Influencing Policy Switches	
Changes in interest rates	• Expectations about the future direction of interest rates and market timing in general, are one of the primary factors that will encourage fund managers to switch between different bonds. • Switching from low-duration to high-duration bonds if interest rates are expected to fall is an example of a policy switch which will cause spreads to change.
Changes in the structure of the yield curve	• Normally, the yield curve is a smooth relationship between yield and maturity. Occasionally, however, there may be humps or dips in the curve. If the humps or dips are expected to disappear, then the prices of the bonds on the hump can be expected to rise (and their yield fall correspondingly), and the prices of the bonds in the dips can be expected to fall (and their yields correspondingly rise). • A policy switch would involve the purchase of the high-yield bond and the sale of the low-yield bond.
Changes in bond quality rating	• A bond whose credit rating, from Standard & Poor's (S&P's) or Moodys for example, is expected to fall will drop in price. To prevent a capital loss, it can be switched for a bond whose quality rating is expected to rise or remain unchanged. • This is an uncertain process and often there are no advance warnings of the re-rating of credit by the major rating agencies.
Changes in sector relationship	• An example of a change in sector relationships is a change in taxes between two sectors. For example, one sector may have withholding taxes on coupon payments, such as domestic bonds, whereas another, eg, Eurobonds, may not.
Expectations about the future shape of the yield curve	• A downward-sloping or inverted curve suggests that markets believe that rates will fall and bond purchasers will be keen to lock in higher coupons now as the expectation is that coupons will decline in the future. A **flat yield** curve suggests that the market thinks that rates will not materially change in the future.
Anticipation of monetary policy	• If short-term interest rates are deliberately being moved higher by the central bank, the market's expectation may well be that eventually this would lead to a downward sloping yield curve, referred to as an 'inverted' curve. This reflects the market's expectations that the bank may be trying to arrest inflationary pressures in the economy. • If the market believes that inflation will rise in the future, then the yields on longer-dated bonds will have to rise in order to compensate investors for the fall in the real value of their money. • The expectation of inflation is more of a problem with the long-end, rather than the short-end, owing to the greater sensitivity to interest rates of longer-duration fixed income securities. Once again, this will be reflected in the 2/10 spread referred to earlier.

4.6.6 Summary

The financial markets have become very sophisticated in analysing the co-movements of yields and interest rates across a wide spectrum of fixed-income securities. Many spreads are quoted in real time in the money markets, and the manner in which other sectors of capital markets respond to these changes in spreads has led to increasingly coordinated movements across multiple asset classes.

Many market observers and sophisticated investors have observed that the manner in which many assets behave in reactions to changing financial spreads has introduced a new kind of risk dynamic into asset management.

As with many other kinds of relationships, the influence is best seen as a two-way feedback loop in which changed circumstances in one sector of the market – for example, a ratings downgrade for a sovereign state – will lead to a widening of spreads in many other parts of the market.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. What are the two key factors which must be considered when designing an appropriate asset allocation for an investor?
   Answer reference: Section 1.1

2. At what stage of the economic cycle might you expect utilities to perform best?
   Answer reference: Section 1.1.1

3. What is correlation compression and when does it arise?
   Answer reference: Section 1.4.2

4. How is an investment reservoir used?
   Answer reference: Section 2.1.2

5. How does a growth investment style differ from a momentum investing style?
   Answer reference: Sections 2.2.1

6. What are the advantages and disadvantages of using passive management?
   Answer reference: Section 2.3

7. What is Core-Satellite Management?
   Answer reference: Section 2.6

8. In comparing fundamental and technical analysis, what is the distinguishing factor in relation to time horizon?
   Answer reference: Section 3.4

9. What assumptions form the basis of technical analysis?
   Answer reference: Section 3.4.2

10. What is the default spread and what does it indicate?
    Answer reference: Section 4.6.2

Chapter Six

Investment Advice

1. **Financial Advice Framework** 395
2. **Regulatory Framework** 405
3. **Financial Advice** 416

This syllabus area will provide approximately 9 of the 80 examination questions

In this chapter, we look at the process of investment advice starting with the framework within which financial advice takes place and then at how the financial advice process operates in detail.

1. Financial Advice Framework

Learning Objective

6.1.2 Be able to apply a framework for providing financial advice, paying particular attention to: 'Know Your Client' and suitability principles underpinning the fiduciary relationship; the nature of the client relationship, confidentiality, trust and client protection; awareness and prevention of conduct risk and conflicts of interest; identification of, and appropriate engagement with vulnerable customers; the information required from clients and methods of obtaining it; monitoring and review of clients' circumstances; the information clients must be given under the current regulatory requirements; additional requirements needed when advising on unregulated retail products

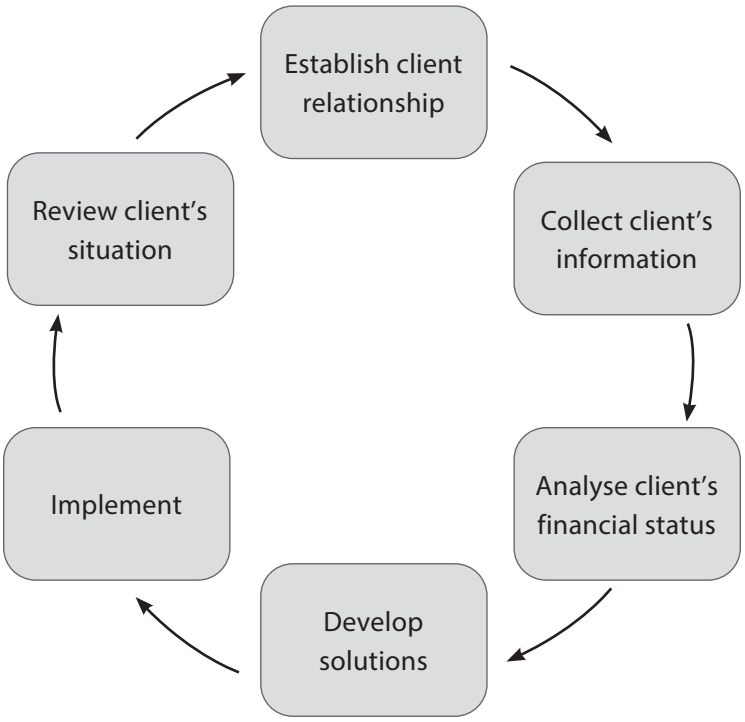
Experienced practitioners rarely stop to think about what steps are involved in undertaking financial advice for a client because experience and time has made the process automatic for them. It is useful, however, to see financial planning as a process because it allows new entrants to the industry to learn in a structured fashion, but it is also a useful management process as it allows each step of the process to be analysed for the management controls needed and for potential improvements.

1.1 Financial Advice Framework

Financial planning is the process of developing strategies to help clients meet their goals and manage their finances.

A financial plan may be very simple or very complex. However, the production of a plan will always result from following a financial planning process. A description of the steps involved in the financial planning process is defined by the Financial Planning Standards Board (FPSB) which describes the process as including at least six steps that form an ongoing cycle.

Financial Planning in Six Steps



Source: Financial Planning Standards Board ltd

The FPSB is a non-profit organisation that manages, develops and operates certification, education and related programmes for financial planning organisations. Its professional qualification – Certified Financial Planner (CFP) – is used globally including by the Chartered Institute for Securities and Investments (CISI) in the UK.

The process of financial planning typically involves some or all of the following steps:

- Establishing and defining the relationship with the client including an evaluation of the ability of the adviser to meet the needs of the client.
- Collecting quantitative and qualitative client information.
- Analysing and assessing the client's information, objectives, needs and priorities.
- Identifying and evaluating strategies to develop recommendations that can be presented to the client.
- Implementing the recommendations once agreement with the client has been reached.
- Reviewing the client's situation on an ongoing basis to ensure the recommendations continue to be appropriate in changing market conditions or client circumstances.

Having a structured advice process helps a wealth management firm to bring consistency to their advice process. Consistency means that each client should get the same service and outcome no matter which adviser they see. Inconsistency leads to regulatory and reputational risk, while consistency leads to trust and solid, long-term and profitable client relationships.

Many firms now adopt a statement of principles as a way of embedding their values into the investment process. These set out the firm's beliefs and approach to investment management and covers areas such as:

- How a structured financial planning process aims to provide clear and suitable advice based on the client's circumstances.
- The investment philosophy used and how risk is assessed, assets allocated and portfolios reviewed.
- How these are used to prepare an investment plan that takes account of the client's unique circumstances.

A systematic investment approach requires a firm to have a strong organisational approach and controls. It also requires firms to be able to demonstrate to clients and regulators alike that they have a strong investment philosophy in place, based on research and knowledge, showing how they arrived at a given investment plan and populated it with certain investment products that were in the best interests of clients.

Trust is at a premium today in the financial services sector and being able to show clients that a firm has a rigorous process to understand their needs and control risks can go a long way to building trust and having a long-term profitable relationship with a client.

1.2 Establishing Client Relationships

The first phase of the financial planning process is for the adviser to establish a relationship with the client. This involves:

- Identifying the needs of the client and determining whether this is within the range of services offered by the firm and whether the adviser has the necessary skills, competencies and authorisation.
- Explaining the services, the firm can offer and an outline of the process as well as the required regulatory disclosures.
- Determining whether the firm can meet the needs of the client and if so, whether advice from other professionals such as lawyers or tax experts is required.

In the next sections, we will look at how advisers establish a relationship with the client, the skills needed to establish a relationship and something that is increasingly important today, how they establish trust.

1.2.1 Client Relationships

The role of the adviser is to build a relationship with a client that allows them in a structured way to identify the information needed to provide sound advice and guide the client through the choices that face them.

At the start of a client relationship, an adviser will be looking to establish rapport with a client so that the information needed to provide investment advice can be obtained and also to set the basis for their ongoing relationship where the goal of the adviser is to the deep trust of the client.

The adviser, therefore, requires three sets of skills. They are:

- an ability to earn trust
- a structured process to give sound and appropriate advice, and
- an ability to build a relationship with the client.

Key to this process is the communication skills of the adviser. Effective communication between client and adviser is fundamental to the financial advice process. Techniques that need to be honed include:

- establishing rapport with the client
- making clear early on what the purpose of a meeting is
- explaining that the information collection exercise is to ensure the quality of the advice that will be given
- using a mixture of open and closed questions to establish the information needed
- using everyday terminology and explaining jargon when it has to be used
- checking understanding
- establishing the priorities and getting the client to confirm their agreement, and
- guiding and controlling the pace of the interview.

Effective communication skills are needed whether you are talking with a new client about their goals or with an established client about significant issues in their life. To be most effective, advisers need to learn a fundamental set of communication skills. Though excellent communication skills are an art, their component parts can be learned like any other. Drawing relevant factual and emotional information from the client and knowing how to handle it adeptly requires good communication skills in every interaction.

Listening skills are also critical – the best financial advisers are the ones who listen to what the client wants, establish rapport, then gain agreement on what needs to be done. Advisers who are keen to develop their skills might want to consider delving into material on active listening for the techniques that can be adopted..

When these skills are finely honed and consistently used, research indicates the client relationship is deepened and client satisfaction increases. The most effective and successful advisers are ones who can truly listen, build trust, interview effectively, make the client feel understood, and manage the delicate issues money can evoke.

Trust does not necessarily develop immediately or without reservations on the part of the client. At the outset of the relationship, clients may not be quite certain whether to share what is to them very private information. The adviser needs to gain the trust of the client if they are to elicit all of the relevant information needed and to build an ongoing relationship. If they do not, the client may not reveal critical information leading to unsuitable advice or they may simply walk away.

1.2.2 Establishing Trust

Advisers need to gain the trust of clients if they are to provide suitable advice. Unfortunately, trust in the financial services sector is in short supply today. Clients are generally somewhere between suspicious and cynical of financial advisers which is unsurprising given the range of misselling scandals there have been over the last 25 years or more. In today's market, restoring trust and acting ethically is at the forefront of the minds of regulators, industry bodies and firms.

Research in the US suggests that the client-adviser relationship goes through the following phases as trust is built:

- The first stage is by starting a working relationship in performing a specific task or service and using specialist skills or knowledge. This is the subject matter or process expert phase.
- The second stage is when the client recognises that the adviser has capabilities outside their perceived original area of expertise. They are able to help solve more general problems that require more than just technical knowledge to address.
- The third stage is when the adviser becomes a valued resource. They offer advice proactively, can be asked for advice on issues that are not necessarily limited to their technical knowledge, and are perceived to put issues and problems into context and provide perspective.
- The trusted adviser status is the apex of the client-adviser relationship. This is where the client is willing to discuss all types of professional and personal issues. The trusted adviser is the person the client turns to when an issue first arises.

Research in the UK as part of the **Financial Conduct Authority (FCA)** Financial Advice Market Review supports this position. The survey results drawn from the FCA's Financial Lives Survey showed:

- Four in ten adults (41% or 22.2m) received support about investments, saving into a pension or retirement planning in the 12 months to May 2024.
- 8.6% of adults (4.6m) had received regulated financial advice in the previous 12 months. Of those advised in 2024, 74% used an adviser from a financial advice firm, such as an IFA. This translates to 6.4% of all adults (3.4m) receiving advice from such firms.
- Trust was a barrier to seeking advice for some not advised adults who may have a need for support. In 2024, 24% did not trust financial advisers to act in the best interest of their clients, 39% did not think they are unbiased, and 21% did not think of them as professionals, like solicitors and accountants.
- In 2024, 12% of advised adults had low levels of trust in their financial adviser, and 16% had low levels of satisfaction – both figures were unchanged from those in 2022.
- In 2024, 63% of advised adults said they would be very likely to use the same adviser again.

So, what comprises trust and what areas do advisers need to work on? Research by the Wharton Business School in the US suggests that trust in the client-adviser relationship is built on three components – trust in technical competence and know how; trust in ethical conduct and character; and trust in empathic skills and maturity.

Client-Adviser Relationship	
Trust in technical competence	• Investors are looking for someone whose level of competence inspires trust. • In other words, an investor generally seeks an advisor who is experienced and knowledgeable, one who can help the investor make, or single-handedly make on the investor's behalf, difficult financial and personal decisions. • Clients value most the adviser who can tell them just enough about the subject without resorting to jargon or making things overly simplistic.
Trust in ethical conduct and character	• Clients think of trustworthiness as a function of the personal ethics of an adviser and are also looking for firms who have a reputation they can rely on.
Trust in empathic skills and maturity	• The final element focuses on interpersonal relationships which may be the most critical in a successful client-adviser relationship. • Wealth can bring unexpected stresses and the client needs to know that they can trust the adviser to handle private information about themselves and their family with empathy and tact. • Clients are more comfortable and more likely to continue their relationship with advisers who can integrate the financial and the personal into their advice and service. • Clients are looking for advisers whom they trust enough – a trust grounded in the rapport established – to make difficult decisions for them.

In a world where investment solutions and services are becoming increasingly commoditised, the extent to which advisers can act as a trusted adviser to their clients will be the real differentiator or measure of value. The surest way to build trust, according to experts, is for the adviser to demonstrate through their actions and words competence in three critical areas: knowledge, ethics and perhaps most importantly, interpersonal communications.

1.2.3 Client Information

In order to build up client trust, it is vital that the financial adviser is able to clearly summarise the content of any client meeting and what outcomes were agreed, what the adviser will action and what will be confirmed when the actions have taken place. This helps in matching the suitability of the products and/or services recommended to the client's needs and in building the relationship between the adviser and client, as well as helping to avert misunderstandings at future stages, and complements the Know Your Client (KYC) information held.

The adviser should document the:

- introduction, including where the meeting was held and when
- confirmation of any current products/plans including their key terms, penalty charges as well as the benefits, current valuation and/or transfer values
- client's needs analysis
- description of future identified needs if different to current ones
- client's risk attitude
- options offered to the client including benefits and any disadvantages of those options
- agreed action plan
- illustrations with relevant details of products/services agreed upon including costs, ongoing charges and key terms
- agreed review periods and how the client will be informed/involved, and
- explanation of what can be done if the client changes their mind and any complaints procedure.

Clients have often overlooked the extent or importance of a particular need, and it is then the responsibility of the adviser to point this out, as the professional in this situation. It is not possible to prevent those clients who choose to ignore this, but advisers need to show that they recognised issues, highlighted them to the client and that the client has decided not to take up the recommendations. This all forms part of the details of the ongoing relationship, and is evidence of acting in the client's best interests at all times.

1.2.4 Fiduciary Relationships

Different views exist about the term 'fiduciary' around the world and countries impose standards and enforce obligations in different ways. The FPSB believes that fiduciary standards should at least embrace principles such as:

- put clients' interests first
- act with the skill, care, diligence and good judgement of a professional
- do not mislead clients – provide conspicuous, full and fair disclosure of important facts
- avoid conflicts of interest, and
- fully disclose and fairly manage – in the client's favour – unavoidable conflicts.

You should be aware that the CISI is committed to championing the highest standards of ethical behaviour and practice among its individual members and corporate supporters. It is now more important than ever that members must demonstrate honesty, openness, transparency and fairness in all business activities. Poor actions by single individuals can result in great costs to firms, both financially and through loss of reputation. Fostering an environment of trust, integrity, and professionalism leads to greater confidence ultimately strengthening a member's and a firm's reputation in the market.

Fiduciary standards underscore the CISI's eight Principles, which impose an obligation on members to act at all times not only in compliance with the rules, but also to support the underlying values of the Institute. Each Principle specifies the duties owed by members to one or more stakeholders who may be impacted by their actions.

CISI Code of Conduct

Principles	Stakeholders
Personal Accountability – to strive to uphold the highest levels of personal and professional standards at all times, acting with integrity, honesty, due skill, care and diligence to avoid any acts, either in person, in a remote working environment or digitally which may damage the reputation of your organisation, your professional body or the financial services profession.	Self, Clients, Regulators, Colleagues, Market Participants, Firm, Profession, Society
Client Focus – to put the interests of clients and customers first by treating them fairly, being a good steward of their interests, never seeking personal advantage from confidential information received and utilising client data only for a defined purpose.	Clients
Conflict of Interest – being alert to and actively manage fairly and effectively any personal or other conflicts of interest, obeying legislation and complying with regulations to the best of your ability, ensuring you are open and cooperative with all your regulators, challenging and reporting unlawful or unethical behaviour.	Clients, Market Participants, Regulators
Respect for Market Participants – to treat all counterparties and business partners with respect, to observe proper standards of market integrity, good practice, conduct and confidentiality required to maintain the highest level of mutual trust.	Clients, Market Participants
Professional Development – to strive continually for professional excellence, committing to Continuous Professional Development (CPD) and promoting and supporting the development of others.	Profession, Clients, Colleagues
Aware of Capabilities – to decline to act on any matter about which you are not competent or qualified unless you have access to such advice or assistance to carry out the work in a professional manner, taking into account the nature of the individual mandates given by your customers and counterparties.	Clients, Profession, Market Participants
Respect Others and the Environment – to treat everyone fairly and with respect, supporting opportunity for all, embracing diversity and inclusion and ensuring that the environmental impact of your work is considered.	Society, Colleagues, Clients, Regulators, Market Participants, Profession, Professional Body
Speak Up & Listen Up – to be active in speaking up and encouraging others to do so by listening up, promoting a safe environment for all and recognising the responsibilities you have to the communities in which you operate.	Society, Colleagues

1.3 Behavioural Finance

The subject of behavioural finance was covered earlier but we will return to it here and look at aspects that are relevant to the client relationship.

Historically, financial advisers have focused on the economic aspect of their client's financial health, often shying away from the cognitive, emotional, and behavioural aspects. An understanding of the concepts of behavioural finance, however, is important for wealth managers as they can help us understand clients' needs better and design and deliver services that take into account how we act in practice.

As we have seen, behavioural finance studies the psychology of financial decision-making. Research in psychology has documented a range of decision-making behaviours called biases. These biases can affect all types of decision-making but have particular implications in relation to money and investing. In this section, we will look at the implications these have for investors and advisers.

As we saw in chapter 4, there are a number of behavioural biases that advisers need to be keenly aware of when dealing with clients, some of which are highlighted in the following table.

Behavioural Biases	
Overconfidence	• Advisers need to be aware of the potential for overconfidence in themselves as well as clients. • They should consider carefully the outcomes of past investment decisions, making an honest assessment of what went well and what did not.
Loss aversion	• Advisers have a key role in helping clients deal with loss aversion and contain their desire to sell winners and hold losing investments. • They should help the client evaluate the future prospects of the investment and whether it is still suitable for the client's circumstances.
Avoiding regret	• Inertia means that clients fail to get around to taking action, often even on things they want or have agreed to do. • Advisers should explain how factors such as automatic portfolio rebalancing can be used to overcome inertia and meet their financial goals.
Mental accounting	• Finance theory recommends that we see all of our investments as a single portfolio rather than focusing on individual investments. • Advisers should use framing to widen what the client looks at and counsel they avoid focusing on individual investments.
Rule of thumb	• Clients often struggle with how to apply the concept of diversification in practice and instead opt for a simple approach and risk ending up with overly aggressive or overly cautious results. • Advisers should caution clients that familiarity is not a substitute for a good spread of investments.

Behavioural Biases	
Anchoring	• A number of biases can result in the incorrect use or misuse of information. Decisions or viewpoints can be based on factors such as an index level, recent events or the short-term record of a fund. • Advisers should ask whether they or the client are being anchored by an irrelevant factor or the way an issue is framed; responding based on available memory or judging based on superficial similarity; or being too conservative based on recent changes in information.

Advisers should attempt to understand the biases and think about how to reduce any potential adverse effect. A clear understanding of why particular investment decisions has been taken can help mitigate the effects of behavioural biases.

Possibly the most challenging aspect of behavioural finance is to apply it to real-life client situations. Identifying behavioural biases can be challenging in itself but deciding whether to try and moderate client behaviour to counteract behavioural biases so that the asset allocation is optimal for the client can involve the adviser treading into difficult areas.

Example

The main objective of the financial planning process is to guide investors to make decisions that serve their best interests. So, which of the following is better?

- recommending an asset allocation that suits the client's natural psychological preferences but does not maximise expected return for a given level of risk. In other words, an underperforming investment portfolio, or
- recommending an asset allocation that goes against the client's natural psychological preferences and accept greater risk in order to maximise return for a given level of risk. In other words, a portfolio that meets their objectives but where they may be uncomfortable with the level of risk taken.

Clearly, there is no simple answer to the question and it will instead depend on the client's circumstances. Sometimes, it will be right to accept the behavioural biases and on other occasions, the adviser should try to moderate those behaviours and persuade the client of the merits of a more appropriate strategy.

Research suggests that advisers could develop an advantage from developing their awareness of these issues and how the client uses framing and mental accounts. Framing portfolio discussions in terms of the investment policy statement, long-term goals and the client's overall wealth can form a type of commitment device which allows rational decisions to be made rather than judgements based on biases. As markets move and emotions take hold, this record can help prevent making snap judgements. A more rational evaluation can take place about whether individual or market circumstances have changed warranting a change of strategy.

2. Regulatory Framework

Learning Objective

6.1.1 Understand the main regulatory categorisations of investment clients, products and services, and how these impact on the responsibilities and processes undertaken by investment advisers: Australia; China; European Union; Japan; Middle East; Singapore; UK; USA

6.1.3 Understand how wealth management services can be paid for: management fees; transaction charges; financial planning advice; performance based fees; nature and frequency of service to be provided

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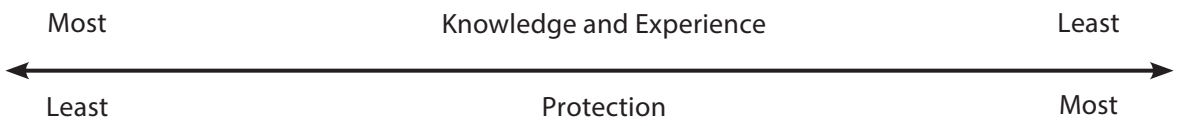
Regulation underlines the importance of how we conduct ourselves as wealth managers, advisers, discretionary managers and as professionals in general. What is expected of us directly because of being authorised to conduct business can most easily be summed up as principles and standards. Some of these standards derive from regulation and others from the increasing emphasis on integrity and ethics in professional practice.

Principles are what guide us, check us and judge our actions. They can be personal, professional or regulatory. Instilling principles into the wealth management industry is what separates us from unacceptable sales practices. In short, we need to set and enforce principles in order to maintain trust. Once, the London investment community adhered to just one simple principle, and it remains today as a cornerstone of the CISI: 'my word is my bond' (*dictum meum pactum*).

Although many of the regulatory requirements surrounding financial advice will vary from country to country, we will consider some of the common principles that aim to drive standards in the profession.

2.1 Client Categorisation

Regulators often distinguish between different types of clients when it comes to the rules and regulations that need to be followed and the regulatory protection available to different types. In summary, the approach can be seen to be that the greatest protection is afforded to those with the least knowledge and experience as the following diagram indicates.



This usually results in a requirement for firms to categorise clients according to regulatory definitions which impact on the responsibilities and processes undertaken by investment advisers.

Client Categorisation	
Australia	• As a generalisation, regulations distinguish between wholesale and retail clients. Essentially, everyone is a retail client unless they satisfy one of the requirements to be classified as a wholesale client. • The law is less prescriptive about the advice process for wholesale clients compared to retail clients, which means compliance obligations are greatly reduced. • Retail clients enjoy the consumer protections set out in the Future of Financial Advice (FOFA) reforms. Wholesale clients generally do not but have access to a wider range of investments and products compared to retail clients.

Europe	• Regulations across Europe introduced by the Markets in Financial Instruments Directive (MiFID) require clients to be categorised as:
	  • **A retail client** – any client who is not a professional client or an eligible counterparty; they benefit from the greatest client protections.
	  • **Professional client** – these are institutions or large entities that have sufficient expertise to not require the same degree of protection; a retail client who can meet certain quantitative and qualitative tests can elect to opt up to be treated as a professional client but will lose the regulatory protections available to retail investors.
	  • **Eligible counterparties** – these are other investment firms that a firm deals with when undertaking activities such as trading and so need the least regulatory protection.

Middle East	• In Saudi Arabia, before conducting securities business with or for any client, an authorised person must classify the client as one of the following:
	  • a customer
	  • an **execution-only** customer
	  • a counterparty.
	• When dealing with an execution-only customer, firms must deal as their agent and the authorised person must not advise such client.

US	• In the US, regulations distinguish between two categories of investors – retail investors and institutional investors. The term retail investor is synonymous with individuals, while institutional investors are, as the name suggests, large institution such as investment firms, mutual funds and pension funds.

The common theme through these examples is that those investors with the least knowledge and experience gain the greatest protection. These classifications also drive the types of service and products available to clients with higher risk and more complex ones available only to those classed as professional or institutional clients.

Wealth managers need to establish the appropriate client categorisation at the start of the relationship and keep it under review. It is sometimes possible to set a client category for all of the services offered by a firm or in relation to a specific trade, service or product.

In some countries, retail clients may request to be recategorised as professional clients if they meet the qualitative and quantitative requirements set under regulation. In Europe, for example, the quantitative and qualitative tests they have to meet are shown in the following table.

Elective Professional Client Assessment	
Qualitative Test	• This requires the firm to take reasonable care to determine that the client has sufficient experience and understanding to be classified as a professional client. • The qualitative test requires the firm to undertake an assessment of the expertise, experience and knowledge of the client to give reasonable assurance that the client is capable of making their own investment decisions and understanding the risks involved. • The client's experience, trading history and financial standing are relevant factors in performing this assessment. If the client is an entity, the qualitative test should be performed in relation to the person authorised to carry out transactions on its behalf. • Evidence should be obtained for each criteria – expertise, experience and knowledge – and documented.

Quantitative Test	• In assessing the client's expertise, experience and knowledge, the client must satisfy at least two of the following quantitative criteria:
	  • The client has carried out transactions, in significant size, on the relevant market at an average frequency of ten per quarter over the previous four quarters.
	  • The size of the client's financial instrument portfolio, defined as including cash deposits and financial instruments, exceeds €500,000.
	  • The client works or has worked in the financial sector for at least one year in a professional position which requires knowledge of the transactions or services envisaged.
	• The criteria which the client meets should be noted along with the type of evidence obtained.

Wealth managers should be able to explain to clients the implications of choosing another regulatory category where that option is available and the client meets the required regulatory standards. The following table provides an indication of some of the consequences when opting up to professional or wholesale client status – (note that the list is not intended to be exhaustive).

Consequences of Categorisation as a Professional Client	
Communications	• The way in which a firm may communicates with professional clients may be different particularly in respect of the level of detail and level of complexity. • Information about the firm, its services and remuneration will be provided but the granularity, medium and timing of such provision may be less specific.
Suitability and appropriateness	• When assessing suitability for professional clients, a firm is entitled to assume that that they have the necessary level of experience and knowledge to understand the risks involved in the management of their investments. • For certain transactions, a firm may need to assess whether a client has the requisite investment knowledge and experience to understand the risks associated with the relevant transaction. However, in respect of a professional client, a firm is entitled to assume that they have the necessary level of experience, knowledge and expertise to understand the risks involved. • This is in relation to the products, transactions and services for which they have been assessed as a professional client.
Dealing	• Deals in listed shares for retail clients must be carried out on a regulated market, a multilateral trading facility (MTF), a systematic internaliser or a third-country trading venue. This is a restriction which may not apply in respect of trading carried out for professional clients. • A range of factors may be considered in order to achieve **best execution**; price is an important factor but the relative importance of other different factors, such as speed, costs and fees may vary. In contrast, for retail clients, the total consideration must be the overriding factor in determining best execution. • For execution-only transactions, the time frame for providing confirmation that an order has been carried out is more rigorous for retail clients' orders than professional clients' orders.
Funds	• Unregulated collective investment schemes (CISs) are deemed to be a high-risk investment, which are not generally suitable investments for retail clients. Firms are permitted to promote such funds to professional clients.
Client Assets	• The requirements under the client money rules are more prescriptive and provide more protection in respect of retail clients than in respect of professional clients. • For professional clients, a firm may conclude title transfer financial collateral arrangements for the purpose of securing or covering their present or future, actual or contingent or prospective obligations. This is not possible for retail clients.

2.2 Conflicts of Interest

A conflict of interest is where someone in a fiduciary position has personal or professional interests that compete with their duty to act in the client's best interest.

The duty to disclose material information becomes more important where the adviser or firm may have an interest in the customer's undertaking of the transaction – for example, earning fees or commissions. In such situations, there is the potential for a conflict to exist between what is good for the adviser or firm and what is good for the firm's clients.

While removal of the conflict of interest is clearly the best way to resolve potential conflicts of interest, that is not always possible. The financial adviser needs to bear in mind constantly their fiduciary duties to the client and their responsibility to act in the client's best interest. All recommendations should be driven by the customer's needs and never by the potential to earn commission for the adviser or the firm.

Open disclosure of any fees or commissions can aid the removal of this conflict.

Conflicts of interest also arise where a firm is dealing on behalf of a client. The firm may wish to place an order in the same security and it may have orders from other clients for the same security. In such circumstances, it should place the orders in due turn so that it is not giving priority to any particular client, and should refrain from placing its own orders if they may prejudice the client's trade.

As an example, investment firms in Europe are required to have a documented 'conflicts of interest' policy. Firms under these obligations are required to:

- Maintain and apply effective organisational and administrative arrangements designed to prevent conflicts of interest from adversely affecting the interests of their clients.
- Have in place appropriate information controls and barriers to stop information from investment research activities from flowing to the rest of the firm's business.
- Where a specific conflict cannot be managed away, ensure that the general or specific nature of it is disclosed (as appropriate to the circumstances). Note that disclosure should be used only as a last resort.
- Prepare, maintain and implement an effective conflicts policy.
- Provide retail clients and potential retail clients with a description of that policy.
- Keep records of those activities where a conflict has arisen.

A firm's terms and conditions will detail how it deals with potential conflicts of interest. There will be times, however, when it is not possible to avoid conflicts of interest, and the firm or adviser should recognise the need in those circumstances to withdraw from the transaction.

Avoiding conflicts of interest is an obligation included in all regulatory systems and in codes of ethics, and so features heavily in a firm's compliance policy and compliance checks.

2.3 Conduct Risk

Since the financial crisis, conduct risk has become a major area of attention by the FCA and the boards of financial services firms. The FCA defines conduct risk as:

> *"the potential for actions or behaviours by regulated firms or individuals that could lead to negative outcomes for consumers, damage market integrity, or hinder effective competition."*

A good starting point is to consider conduct risk as the latest in a series of regulatory thinking that began with treating customers fairly, which then progressed through principles-based regulation, and then on to outcomes-focused regulation, before becoming conduct risk. All of these expressions have at their heart the same basic idea, namely that regulation through the creation of rules alone is not enough to protect consumers or markets. The FCA comment that conduct risk is not just about compliance with rules; it's about the ethical conduct and behaviour of firms and individuals that can impact customers, markets, and the overall financial system.

Key Focus Areas:

Culture	The FCA emphasises the importance of a strong and ethical culture within firms, where good conduct is valued and incentivised.
Governance	Robust governance frameworks are essential to identify, assess, and manage conduct risks effectively.
Remuneration	Incentive structures should align with good conduct and discourage risky or unethical behavior.
Training and Awareness	Firms need to provide adequate training and support to their employees on conduct risk and their individual responsibilities.
"Speak Up" Culture	Encouraging employees to raise concerns about potential misconduct without fear of reprisal is crucial.

Examples of conduct risk:

- Mis-selling unsuitable financial products to customers.
- Failing to provide clear and transparent information to customers.
- Manipulating market prices or engaging in insider dealing.
- Treating customers unfairly or failing to deliver good outcomes.
- Not adhering to ethical standards in trading practices.

Compliance with rules is generally a backward-looking philosophy. The question tends to be: 'Did the firm comply?' Certainly, this is how firms operated in the past, with compliance-monitoring activity devoted to uncovering incidences of historic rule breaches. The conduct risk approach, on the other hand, has a forward-looking emphasis: 'Will the actions of the firm lead to poor outcomes for consumers or not?'

Consumer Duty

In the UK, the FCA have taken this further with the introduction of the Consumer Duty since July 2023 – this introduced a new core principle for firms who must 'act to deliver good outcomes to retail customers' and underpinned through four outcome areas – Governance of products and services; Price and Value; Consumer Understanding; and Consumer Support.

Under the Duty, firms should be open and honest, avoid causing foreseeable harm, and support clients to pursue your financial goals. Customers should expect:

- Helpful and accessible customer support, so it's as easy to sort out a problem, switch or cancel your product, as it was to buy it in the first place.
- Timely and clear information you can understand, so you can make good financial decisions. This means important information shouldn't be buried in lengthy terms and conditions.
- Providers to offer products and services that are right for you, rather than pushing products and services you don't need.
- Products and services to provide fair value. This should mean you won't be ripped off or have to pay costs you didn't expect. But while your provider should offer you a fair price, it doesn't mean it will be the best deal for you, so you should still shop around.
- Firms to consider if you're in a vulnerable situation when dealing with you. This could be due to poor health or financial troubles, for instance.

2.4 Suitability Principles

The regulatory steps expected of a firm to ensure its recommendations are suitable and appropriate will vary depending upon the needs and priorities of the customer, the types of investment or service being offered and the nature of the relationship between the firm and the customer.

When a firm proposes to offer investment advisory services or discretionary portfolio management, it must first assess whether such services are suitable. If the firm intends to offer other investment services, eg, trading derivatives such as contracts for difference, then it must ensure that they are appropriate for the client.

In assessing the client's knowledge and experience, the firm should gather information on:

- the types of services and transactions with which the client is familiar.
- the nature, volume, frequency and time that the client has been involved in such services and transactions, and
- the client's level of education, profession, or relevant former profession.

The general requirement is that the firm must take reasonable steps to ensure it makes no personal recommendation to a customer unless it is suitable for that customer. Suitability will have regard to the facts disclosed by the customer and other facts that the firm should reasonably be aware of.

Having assessed what services and products are suitable and appropriate, the firm should provide the client with a report which should set out, among other things, why the firm has concluded that a recommended transaction is suitable for the client.

If the firm determines, after assessment, that the service or product is not appropriate for the client, then it should issue a risk warning to the client. If the client still wishes to proceed despite the warning, then they should proceed with care with what is known as an 'insistent client'.

If the firm is acting as an investment manager for a client, there is an ongoing requirement that it must ensure that the portfolio remains suitable. Equally, if a customer has agreed to the firm pooling their funds with others, the firm must take reasonable steps to ensure that any discretionary decisions are suitable for the stated objectives of the fund.

Where a firm offers services without providing advice, it may need to undertake an appropriateness test. This is typically required where firms arrange deals in derivatives or other complex instruments and it requires firms to ask the client for information about their knowledge and experience in the investment field of the specific type of product or service offered or demanded so that it can assess whether the product or service is appropriate.

2.5 Client Identification

As part of the advice process, there is a need to ensure that appropriate due diligence measures are undertaken to identify the client as part of the anti-money laundering obligations that firms must ensure they implement.

Money laundering regulations require firms to adopt identification procedures for new clients and keep records in relation to this proof of identity. This obligation to prove identity is triggered as soon as reasonably practicable after contact is made and the parties resolve to form a business relationship. Failure to prove the identity of your client could result in an unlimited fine and a jail term.

The identification procedures that a firm must carry out are usually referred to as customer due diligence (CDD) and the procedures that must be carried out involve:

- identifying the customer and verifying their identity,
- identifying the beneficial owner, where relevant, and verifying their identity, and
- obtaining information on the purpose and intended nature of the business relationship.

It is also a requirement that financial institutions undertake checks to determine the source of funds that the client wishes to invest. Firms must also conduct ongoing monitoring of the business relationship with their customers to identify any unusual activity.

The types of documentary evidence that are acceptable to prove the identity of a new client would include the following:

- **For an individual** – verifiable and independent electronic checks (for example, through a credit reference agency) or an official document with a photograph will prove the name, eg, passport or international driving licence; a utilities bill (gas, water or electricity) with name and address will prove the address supplied is valid.

- **For a corporate client (a company)** – proof of identity and existence would be drawn from the constitutional documents (Articles and Memorandum of Association), sets of accounts, information regarding the ownership chain and potentially proof of identity information for key individual stakeholders (directors and authorised signatories) would also be required.

Checks should be made that the client is not a **politically exposed person (PEP)** or that the individual or their country is not included on any sanctions blacklist. In such cases of higher risk, and, if the customer is not physically present when their identities are verified, then enhanced due diligence (EDD) measures must be applied on a risk-sensitive basis.

A PEP is a term used by regulators to identify persons who perform important public functions for a state. These are individuals who, depending on their status, residency and nature of being classified as a PEP, may require heightened scrutiny because they hold or have held positions of public trust, such as government officials, senior executives of government corporations, politicians, important political party officials and so on, along with their families and close associates.

Trusts and foundations are viewed as presenting higher risk and the additional factors that should be considered for offshore trusts were covered in chapter 2.

Policies and procedures must be put in place to minimise the risk of the firm being used for money laundering/terrorist financing purposes and a money laundering reporting officer (MLRO) must be appointed to act as a central point for reports of suspicious activity. Staff within the business must report such matters, in confidence, to the MLRO:

- where they know, or
- where they suspect, or
- where they have reasonable grounds for knowing or suspecting that a person is engaged in, or attempting, money laundering or terrorist financing.

It is important to recognise that the regulations go beyond just knowledge or suspicion and that failing to disclose when there are reasonable grounds for suspicion is also a criminal offence. This introduces an objective test of suspicion, and if a case went to court it would be up to a jury to determine whether there were reasonable grounds for suspicion, possibly with the benefit of hindsight. This means staff working in the financial services sector should be able to demonstrate that they took reasonable steps in the circumstances to know the customer and the rationale for the transaction, activity or instruction.

2.6 Information Disclosure

Financial services firms are required to make certain disclosures to clients at the start of the relationship and provide the client with information about the firm and the scope of the services that are offered, how it manages and safeguards investments, and the costs and charges that the client will incur.

The purpose of this duty to disclose material information is to ensure that the client has all the information needed to ensure that they are in a position to make a full and informed decision about the suitability of the recommendations being made. What constitutes 'material information' will depend upon the investments and products being recommended but would include areas such as charges, cancellation rights, early encashment penalties, risk warnings and any special or non-standard terms.

The sort of information that should be provided includes details of:

- The firm and its services.
- The investments and proposed investment strategies, including appropriate guidance and warnings of any associated risks.
- Any leverage that is involved, and its effects and the risk of losing the entire investment.
- The volatility of the price and any limitations on the available market for such investments.
- Where the client has entered into derivative-type transactions, the fact that they might assume obligations additional to the cost of acquiring the investments.
- Any margin requirements or similar obligations applicable to certain investments.
- The execution venue that will be used.
- All costs and associated charges.

Examples of the scenarios in which disclosure of material information may be relevant include financial planning reports and suitability reports, key investor information documents and prospectuses for a mutual fund.

Where the firm will be providing ongoing services, it should provide details about how it will go about managing the client's money and the arrangements it will put in place for safeguarding the client's assets.

Where firms manage investments for their clients, they must establish a meaningful way of evaluating and reporting performance to the client. They should inform clients of the nature, frequency and timing of the reports to be provided, including:

- the method and frequency of valuations
- the details of any delegation of the discretionary management of their portfolio
- what benchmark their portfolio's performance will be assessed against
- what types of investment may be included in their portfolio and what types of transaction may be carried out (including any limits)
- the management objectives and levels of risk that the manager may incur on their behalf and any constraints on the manager's discretion.

Where firms hold client money or investments they should provide the following information, where it is appropriate:

- a summary of the steps the firm has taken to protect the client's money/investments, including details of any relevant investor compensation scheme or deposit guarantee scheme
- that the investments may be held in an omnibus account if this is the case (An omnibus account is where the investments of all clients are pooled together in order to make the investment management of the investments and their administration more efficient.)
- where the investments cannot be separately designated in the country in which they are held by a third party, what this means for the client and what the risks are and what this means for their rights over them
- the terms under which the firm may exercise any rights it may have over the investments where they are held as security for any borrowing
- that the investments/money may be held by a third party on the firm's behalf
- what the firm's responsibility is for any acts/omissions of that third party
- what would happen if the third party were to become insolvent?

2.7 Client Agreements

Where the firm is managing investments for a client, it also needs to enter into a client agreement that sets out the essential rights and obligations of the firm and the client. A client agreement must meet the regulatory requirements, as well as provide the legal basis for provision of the service.

There is no standard form of investment management agreement as each investment firm prefers to draft its own. It may include some or all of the information that the regulator requires firms to disclose to clients or it may be a more focused document as those disclosures take place in another document.

The client agreement will represent the legal basis on which services are provided and forms a legal contract between the firm and its client. It is important therefore to keep in mind the legal requirements for who can enter into a contract for investment services.

Wealth managers need to be aware of the characteristics of the main types of legal persons that they may do business with so that they can correctly identify who is in a position to commit the organisation to a contract and provide instructions.

- A minor, that is an individual under the age of 18, does not have capacity to enter into a contractual agreement. Contracts signed by drunks, the mentally ill, the certifiably insane can all be declared void by a court of law.
- Legally, to bind a company to a contract, it must be signed by a person who has the authority to do so. This would normally be achieved by affixing the common seal of the company and signed by two directors or one director and the company secretary.
- When dealing with local authorities, it may be necessary to obtain the 'seal' of the corporation to the contract. The seal of a local authority binds the relevant local authority, in the same way that having the signatures of the board of directors would in the case of limited company.
- For a partnership, deeds should be signed by all partners and witnessed or signed by one or more partners who have been granted authority by deed to execute on behalf of the partnership and witnessed.
- For limited partnerships, the deed should have the common seal affixed and be signed by two members.
- A trust is not a legal entity in its own right and cannot enter into contracts. Instead, it is the trustees that legally own the assets of the trust and who can enter into contracts to bind the trust.

2.8 Charging

Regulations laid down by the financial services regulator set out the nature, and usually the content, of information that financial advisers must provide to their clients. These obligations extend not only to the advice the adviser provides – including why they are suitable, and what the benefits, disadvantages, risks and costs are – but also to the adviser's own regulated status, how they work and on what basis charges are paid.

Whenever a firm conducts investment business for a customer, it must make the customer aware of the costs so that they are better able to make informed choices. It has to do so in writing and before it conducts any business. It must also disclose any product-related charges and any commissions it may receive from a product provider. For investment products this is usually included within a key features document that is required to be provided to the customer.

The information to be supplied includes:

- The total price to be paid including all related fees, commissions, charges and expenses and any taxes payable via the firm.
- If these cannot be indicated at the time, the basis on which they will be calculated so that the client can verify them.
- The commissions charged should be itemised separately.
- If any costs or charges are payable in a foreign currency, what the currency is and the conversion rates and costs.
- If other costs and taxes not imposed by the firm could be payable, how they will be paid or levied.

3. Financial Advice

Learning Objective

6.2.1 Know the purposes, merits and limitations of using questionnaires and interviews to elicit client information

6.2.2 Know the main factors, resources and limitations shaping a client's current and desired financial circumstances: understanding the client's goals and aspirations; gather appropriate, relevant information about current and projected income, expenditure, debt and savings; consider time horizons and the relative balance of growth versus income; distinguish between what is essential and what is desirable, and prioritise accordingly; review for 'unseen' factors which may not be evident through reliance on data collected; agree clear, feasible, prioritised investment objectives

6.2.3 Be able to apply a range of essential information and factors to form the basis of appropriate financial planning and advice for clients: financial needs, preferences and expectations; setting realistic goals and priorities; income and lifestyle – current and anticipated; attitude to risk/capacity for loss; level of knowledge and experience of investing; existing debts and investments

6.3.1 Be able to analyse a profile of a client's risk exposure and appetite for risk, based on the following objective and subjective factors: level of wealth; timescale; commitments; life cycle; life goals; investment objectives; attitudes; experiences; knowledge; capacity for loss

6.3.2 Be able to apply a client risk profile to the investment selection process, mindful of the following: suitability and appropriateness; benefits and limitations of risk profiling systems; conduct, legal and reputational risks of misselling and poor or inadequate advice

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We will now turn to look in detail at the process of financial advice with a concentration on investment advice. We will begin with looking at establishing a client's needs, the range of information needed and their risk profile that are needed to identify their investment objectives and suitable investment recommendations.

3.1 Client Goals and Priorities

This stage of the planning process involves the adviser identifying the client's personal information and financial objectives, needs and priorities so that they can subsequently analyse the client's financial position and identify suitable solutions. It also potentially involves helping the client to clarify and prioritise their short- and long-term objectives including discussing with the client the feasibility of any objectives that appear to be unrealistic.

This phase encompasses three main areas:

- agreeing the client's investment and financial objectives and identifying any constraints
- establishing the client's risk profile
- collecting the quantitative and qualitative data needed.

Although this is in a logical sequence, in practice, an adviser often ends up moving between the phases and returning to previous ones as new information becomes available.

Understanding the client's goals and expectations is vital to the investment advice process. Finding out what clients want to achieve with their finances can be one of the longest and most difficult aspects of the investment advice process. Some clients have a good understanding of their general aims and objectives, but many have not thought through them, and so it may be important to help them to consider these issues. In many cases, these are defined during and as a result of the process.

An experienced adviser often sets out to determine a client's goals and expectations at the outset, rather than embarking on a detailed fact-find. The financial planning experience may well be the first time that a client has thought seriously about their long-term future or tested their aspirations and assumptions against financial realities.

The fact-find process is essential, but clients often see it as nothing to do with what they want to achieve. A more successful strategy is usually to determine their goals and expectations, and then explain that a detailed fact-find will be necessary in order to be able to make recommendations.

Understanding a client's background is important, as a person's history always plays a dominant role in shaping individual attitudes. Most individual's attitudes and beliefs about money are shaped by their experiences and the challenges they have faced in achieving a sense of financial well-being. Understanding this helps with clarifying their attitudes to money and managing it and contributes to establishing their tolerance to risk.

Equally, questioning a client about how satisfied they are with their life and financial position can be illuminating and can add further to the background picture of the client. Satisfaction is personal and dependent on an individual's beliefs, and so the results may indicate key priorities that need to be addressed or the degree to which investments need to be targeted at income production, wealth preservation or wealth creation.

An adviser should also try to elicit what principles matter to a client. They may have strong views about where their money should or should not be invested, or the level of risk they are prepared to take to achieve objectives. Their attitude to money, and principles and values which matter to them, will help the adviser understand what influences them, and this can be factored into recommendations.

It is also important to understand the stage of life that a client has reached. This may seem as obvious as finding out someone's age and making assumptions from that. Open questions about the client's intentions are likely to bring out useful information about their plans and the challenges they face.

Finally, these conversations lead nicely on to the client's goals and aspirations. Questions designed to find out what their plans are, what they hope to achieve and the lifestyle they want will all help ensure that any recommendations are aligned with these.

Establishing goals and expectations in this way will help the adviser with the fact-find process, which must follow if investment recommendations are to be made.

3.2 Client Data

There is no simple way of establishing all of the information needed about a client quickly. The adviser will need to undertake a detailed, and potentially lengthy, interview with the client in order to understand what existing assets and liabilities they have before turning to developing a true understanding of what their needs are.

There is also no single way of collecting all of the required information. Most firms use a 'Know Your Customer' questionnaire or fact-find that the adviser completes during their interview with the client so that the information can be collected in a logical and straightforward manner and can be available for later use. The advantage of this approach is in its consistency, the factual record it creates and the opportunity for quality-checking that it provides. Its disadvantage is the customer's reaction to what they may perceive as a lengthy form-filling exercise – hence the need for good communication skills.

The information that needs to be collected will depend on the service and products under consideration, but will generally include:

- personal details
- health status
- details of family and dependants
- details of occupation, earnings and other income sources of wealth
- estimates of present and anticipated outgoings
- assets and liabilities
- any pension arrangements and any life or insurance arrangements, and
- potential inheritances and any estate planning arrangements.

We will now look at each of these in more detail and identify what information is needed and why, when undertaking investment planning.

3.2.1 Personal Details

An adviser will seek to establish extensive personal details about the client including:

- full name
- address
- date of birth

- place of birth
- tax residency status
- domicile, and
- tax ID numbers.

Details of the client's name and address will need to be verified to comply with anti-money laundering requirements, as detailed in section 2.5 of this chapter.

The client's date of birth will clearly establish their age, and this should immediately start to indicate the stage of life they have reached, which may have implications for any asset allocation strategy. It will also give an indication of their potential viewpoint on long-term investments.

The client's age may also be relevant when looking at their assets. An elderly client who has had a portfolio for many years may well be sitting on significant gains and, if these were sold, then a liability to capital gains tax (CGT) might arise. It may, therefore, be worth considering whether these should be retained until the client dies, when they can be passed on to their beneficiaries without any CGT being incurred. This should, however, be viewed alongside other issues, such as inheritance tax planning and the inherent investment risk, eg, the potential loss from not undertaking diversification or following a prescribed model portfolio. In practice, a discretionary manager would recommend paying the tax from the gains realised but even so, the timing of such a sale is a significant issue.

The client's place of birth may have a bearing on their residency and domicile. The adviser needs to establish whether the client is resident or not in their country for tax purposes and their domicile. If the client maintains that they are not resident or domiciled, what evidence is available to substantiate this if challenged by the tax authorities.

Both of these factors could have a significant bearing on how the returns from any recommended investments are taxed and, therefore, on which are selected, and the net returns that are generated for the client.

Tax ID numbers will also be needed, as they may be required for any tax wrappers that may be selected and for any tax reporting requirements that may have to be met.

3.2.2 Health Status

There are many subjective factors that can influence a client's attitude to risk, and so it should be no surprise that the same set of events might be seen differently by different people. Understanding a client's health status and life expectancy, however, can help towards an understanding of their risk tolerance and planning an appropriate cash flow forecast.

Firstly, a client's health status will need to be established; namely, whether they are in good health or have any serious medical conditions that may influence their investment objectives and attitude to risk.

It is important that a client in ill health is assessed as to whether they are vulnerable and whether their near-term cash flow requirements are in line with any long-term financial aspirations. An adviser needs to discuss the implications with a client who is in poor health yet is opting for a high-risk strategy in the hope of leaving an inheritance.

An individual in good health who comes from a family with members who traditionally live until a very old age will certainly want to plan for the long term, and planning for income well into retirement may well be very high on their list of priorities. This may influence the investment strategy selected as there may be a need to generate a growing level of income for many years, implying the need for a higher exposure to equities and the growing dividend stream these can provide.

At the other end of the spectrum, a client may be in poor health, and this may drive an investment strategy to produce a more immediate income. This will then influence the asset allocation strategy adopted, and sway weightings away from equities to cash and fixed-income instruments.

A client's health may also influence their attitude to risk. A client in good health who expects to live well into old age may take the view that they need to be cautious in their approach or, alternatively, that they have the time horizon that enables an adventurous approach. A client in poor health may take the view that ensuring they have the funds to care for themselves is their overriding priority and so may not be prepared to take undue risks. Equally, a client might take the view that they are going to spend everything they have before they go and so being adventurous is right for them. In that example, shorter-term goals demand quite different advice to long-term needs. You may need to determine and document if your client is insistent on pursuing a short-term, high-risk strategy.

Wealth managers should also consider customer vulnerability as part of the assessment and KYC process, taking into account the age, faculties, health and overall vulnerability of the client. A wealth manager must be comfortable that the client fully understands the advice and actions being taken on their behalf.

Vulnerable Customers

Vulnerability can come in a range of guises, and can be temporary, sporadic or permanent in nature. The FCA defines a vulnerable customer as someone who, due to their personal circumstances, is especially susceptible to harm, particularly when a firm is not acting with appropriate levels of care. Wealth management firms frequently encounter this with older clients or with the problems that old age brings to name just two. Consumer protection legislation focuses on a typical customer, but vulnerable ones are at greater risk and more likely to suffer harm than the average consumer.

3.2.3 Details of Family and Dependants

Details of the client's family and dependants will normally be established as part of the fact-finding exercise. The information that will be collected will include the name and date of birth of the client's spouse or civil partner, as well as their health status, as this may equally impact the client's investment objectives and attitude to risk.

Although not essential, it is wise for the adviser to try and establish the spouse's attitude to risk as well and whether that might influence the client. The client might well have an adventurous attitude to investment and be prepared to accept the associated risks, but their spouse may have alternative views which could lead to tensions that might affect the service provided by the firm and adviser.

Where the client has been married previously, the adviser should determine the extent of any ongoing divorce payments that might be relevant to the investment strategy.

Details of children or other dependants should also be established. Where the client has young children there may be a need to provide funds for school fees or university education. These may need to be planned for separately and give rise to not just multiple investment objectives but potentially different attitudes to risk. This is especially the case when an adviser follows goal-based planning.

3.2.4 Details of Occupation, Earnings and Other Income Sources

The fact-find will seek to establish details of the client's business and occupation and the income that they earn from this and other sources.

The client's occupation or business will give a good indication of their experience in business matters, which may be relevant when judging the suitability of a particular type of investment that carries greater risk. However, an adviser cannot simply assume experience or reduce their fiduciary responsibilities as a consequence. For example, customers of execution-only companies may need to complete an appropriateness form to determine what types of securities they can invest in.

Establishing the client's occupation may lead the adviser to realise that there may be issues with dealing in certain stocks if the client holds a senior position in a company. In such a position, the client and firm face the risk of dealing on inside information. They will need to ensure that arrangements are put in place to request permission to trade, avoid closed dealing periods and ensure that any trading takes place in a manner that places neither the firm nor the client at risk.

A client may also potentially be a politician or hold a senior position which is in the public spotlight (a PEP). Where that is the case, they often need to distance themselves from any investment decision-making so that there can be no accusation of them exploiting their position or knowledge. In such cases, it is often common to establish a blind trust where all investment decisions are taken on a totally discretionary basis and where the client is deliberately kept unaware of trading decisions or their rationale. It is not unusual for there to be extra due diligence required by firms (often overseen by the compliance department) when deciding whether to onboard a PEP, including referring to country sanctions list.

Where the client is in business, the adviser will want to understand the client's plans for the business and any funds that may be forthcoming immediately or in the future that might affect the investment plans that the adviser will draw up.

Clearly, it will be necessary to establish a client's income and the sources it arises from. While generating a particular level of income may be important to the client (even if it is not) it will be equally relevant as to how that income affects the client's tax position.

3.2.5 Estimates of Present and Anticipated Outgoings

An understanding of the client's outgoings will be needed in conjunction with their income, where it is necessary to look at budgeting, planning to meet certain liabilities or generating a specific income return.

Depending upon the client's priorities, both their present and anticipated future outgoings may be needed, for example where the investment plan involves generating a certain income in retirement.

Standard practice is for customers to have some sort of reserve funds in case of volatility soon after investing. The general rule of thumb is that advisers should consider six months' worth of expenses held by the client in reserves to avoid any short-term calls on the portfolio. The adviser should satisfy themselves that, whatever amount is agreed with the client, it is suitable and commensurate with their personal circumstances.

3.2.6 Assets and Liabilities

Full details of the client's existing assets and liabilities will need to be ascertained.

As part of the anti-money laundering checks that an adviser will need to undertake, the source of the client's wealth will need to be established. When investigating the source of the client's wealth, it is possible that the adviser will become aware that the client has undertaken some dubious activity such as deliberately avoiding paying tax. The adviser needs to exercise extreme care over this as deliberately avoiding paying tax and similar exercises are classed as financial crime.

As well as obtaining details of the client's assets, the adviser should also look to establish:

- The location of the assets and whether any investments are held in a nominee **account**.
- The tax treatment of each of the assets.
- Whether any investments are held in a tax wrapper.
- Acquisition costs for any quoted investments held and any present year gains or losses incurred.
- Details of any early encashment penalties.

The information needed will vary by type of asset; the following table gives an indication of some of what is needed.

Asset	Information Needed
Bank and savings accounts	• Account type and details • Balance • Branch where account is held if needed • Interest rate on the account • When interest is paid and whether there are any bonuses payable • Any early encashment penalties or lock-in periods

Asset	Information Needed
Quoted investments	• Full title of each instrument. • Nominal amount of stock or shares held. • Dates of purchase. • Acquisition costs. • Where the stock is held and, where known, the international securities identification number (ISIN) or other identification number. • Details of any pending corporate actions.
Investment funds	• Full title of each fund. • Number of units or shares held. • Dates of purchase. • Acquisition costs. • Share class. • Investment structure, fund type, tax status. • Whether the holding is **certificated** or uncertificated and in what name it is registered. • Any exit fees. • Frequency of valuation points if fund redemptions are infrequent. • Dealing and notice periods, eg, some illiquid assets, such as hedge funds and private equity funds, have quarterly or yearly dealing.
Tax-exempt accounts	• Account type and details. • Eligibility criteria for tax exemption. • Assets and cash held. • Whether further additions can be made in current tax year. • Whether account can be transferred without loss of tax-exempt status. • Tax ID reference.
Structured products	• Type of product and features. • Details of sum payable and any guarantees. • Conditions to be met for payment. • When purchased and cost. • Term and repayment date. • Cost structure. • Any early encashment penalties. • Whether quoted or unquoted.
Life assurance bonds	• Policy type and details to include if written in trust or not. • Policy conditions. • Whether it is with-profits or unit-linked. • Details of unit-linked funds and number of units held. • When purchased and costs. • Any encashment penalties.

Details of any liabilities that the client has should be established, and whether these are covered by any protection products.

Any cash funding requirements, such as the need to fund school fees or university education, will particularly need to be understood, so that the requirement to provide the necessary cash at the appropriate time can be factored into the investment strategy.

3.2.7 Pension Arrangements

The pension arrangements that the client has made will need to be closely linked to the investment strategy that is adopted both for retirement and other financial objectives.

The availability of tax exemptions for pension contributions may be an influencing factor on the choice of investments and so clearly needs to be factored in at this stage.

Where the client has some influence over where the funds are invested, the adviser will want to discuss with the client how the funds will be managed and whether they will be incorporated into any overall asset allocation.

The firm may be able to manage the investments held within the client's pension plan, and in so doing will need to decide whether that portfolio will be managed as a discrete entity or whether a holistic view will be taken. This could involve the pension plan portfolio being treated as a sub-portfolio for investment management purposes, with the investment manager looking at the combined picture of a taxable portfolio, tax-free accounts and pension portfolios and allocating investments between the accounts.

3.2.8 Potential Inheritances

Finally, the client should be asked to provide details of any potential inheritances they may receive and of any trusts where they are beneficiaries. This will be relevant where the amounts due to be inherited might influence the investment strategy adopted. For example, a client may be due to inherit a substantial sum from elderly parents and so may be able to take a view that their investments should be directed to outright growth.

The adviser should also check whether the client has left any specific gifts of shares in their will and, if so, whether this would prevent any sale of such a holding.

3.3 Risk Profile

Investment always involves a trade-off between risk and return. However, different people are prepared to tolerate different levels of investment risk and investment risk means different things to different investors. Variations in attitude arise because of individual differences in circumstances, experiences and psychological makeup.

A client's risk profile is made up of three components:

- **Risk tolerance** – this is the client's willingness to accept a certain level of fluctuation in the value of their investments without feeling an immediate need to sell.
- **Risk perception** – this represents their personal opinion on the risks associated with making an investment based on their prior knowledge and experience.
- **Risk capacity** – this is the client's ability to absorb any financial losses that might arise from making a particular investment.

Taken together, these three elements along with relevant additional fact-find information should allow a risk classification or profile to be determined that can be agreed with the client.

The risk assessment process usually starts with investigation of attitudes; consideration of risk capacity usually follows later since it requires knowledge of the client's objectives and the particular investments that are being considered.

3.3.1 Risk Tolerance

Risk tolerance is defined as the degree of uncertainty that an investor can handle, with regard to a negative change in the value of their portfolio.

It reflects the extent to which an investor is comfortable with the risk of losing money on an investment. If they are unwilling to take the chance that an investment might drop in price, they have little or no risk tolerance. On the other hand, if they are willing to take some risk by making investments that fluctuate in value, they have greater risk tolerance. The probable consequence of limiting investment risk is that you are vulnerable to inflation risk, or loss of buying power.

There are a number of objective and subjective factors which can be established that will help define this.

Objective and Subjective Factors	
Objective factors	• The timescale over which a client may be able to invest will determine both what products are suitable and what risk can be adopted. • Family commitments are likely to have a significant impact on a client's risk profile as they will want to meet their obligations which may make higher-risk investments less suitable. • Wealth will clearly be an important influence on the risk that can be assumed. A client with few assets can little afford to lose them, while ones whose immediate financial priorities are covered may be able to accept greater risk. • Stage of life is equally important as it will impact the level of risk that can be adopted and the time horizon over which they consider investments. • The age of the client will often be used in conjunction with the above factors to determine acceptable levels of risk.

Objective and Subjective Factors	
Subjective factors	• Investors who are more knowledgeable about financial matters are more willing to accept investment risk. • Some individuals have a psychological makeup that enables them to take risks more freely than others and see such risks as an opportunity. • A client's preferred investment choice such as a client's normal preferences for the relative safety of a bank account versus the potential risk of stocks and shares. • A client's approach to bad decisions. Some clients can take the view that they assessed the opportunity fully and therefore any loss is just a cost of investing. Others regret their wrong decisions and, therefore, avoid similar scenarios in the future.

Establishing objective factors is clearly a preferable and more accurate way to help define a client's risk tolerance, but subjective factors clearly have a part to play.

Subjective factors enable an adviser to try and establish a client's attitude to taking risks. A client's attitudes and experiences must also play a large part in the decision-making process. A client may well be able financially to invest in higher-risk products and these may well suit their needs, but if they are cautious by nature, they may well find the uncertainties of holding volatile investments unsettling, and both the adviser and the client may have to accept that lower-risk investments and returns must be selected.

3.3.2 Risk Perception

Risk perception refers to people's subjective judgments about the likelihood of negative occurrences such as injury, illness, disease, and death. In investment terms, risk perception is a subjective view that clients take on the risks involved in making a particular investment, when compared to the alternatives available, based on their own knowledge and experience.

Individuals evaluate risks mostly according to subjective perceptions, intuitive judgments, and inferences made from media coverage and limited information. By contrast, experts try to base their risk perceptions more on research findings and statistical evidence. Risk perception is a highly personal process of decision-making, based on an individual's frame of reference developed over a lifetime, among many other factors.

The concept of framing seen earlier in behavioural finance, therefore, plays a significant part. As we saw in the section on behavioural finance, this is an area where the adviser needs to consider how to manage the client's perception. Effective risk communication depends on acknowledging the many factors that contribute to individual risk perception and should aim to combine the client's instinct with evidence to make the best choices possible.

Risk is interpreted differently by people, and for some, taking on risk is acceptable while for others, risk is something to avoid. A client may perceive that placing funds in a cash deposit account does not present any risk to the value of their capital. However, this ignores the impact of inflation and, once this has been explained and understood, the client may appreciate that the real value of their capital will diminish over time if the rate of interest they receive on their savings does not exceed the current rate of inflation.

As the client's practical experience of investing increases, this is likely to shape their perception of risk when considering future investment opportunities. Advisers need to be aware that this will happen and, without being patronising, help the client deepen their understanding to whatever extent they wish.

3.3.3 Risk Capacity

Also known as 'capacity for loss', risk capacity is the client's ability to absorb any losses that may arise from making a particular investment.

Risk tolerance and risk perception are partly subjective, but risk capacity is largely a matter of fact. While subjective factors largely determine risk perception and attitude, the key question in assessing risk capacity is more what the consequences will be for the client if losses are incurred.

The ability to bear loss will vary significantly from investor to investor and be dependent on their goals.

In some cases, risk capacity will play the most important role in determining the client's overall risk profile. The client's capacity for risk will also be affected by the level of investment being considered. If the amount at risk represents a significant portion of the overall portfolio, risk capacity may be diminished. Risk capacity will be greater when the amount at risk is a small fraction of available capital.

3.3.4 Risk Descriptions

As will be clear from the above, establishing an investor's risk profile is not straightforward.

Attitude to risk and its definition are themes that financial services companies constantly revisit. The reason for this is simple: namely that they want to be able to categorise a client into a risk category and then be able to say which of their products are suitable for clients with that risk profile. However, definitions of risk profiles are imprecise.

The output of risk profiling is a description of investor risk appetites; examples of these are shown in the following table.

Investor Risk Appetites	
Low risk	• Prefer knowing that their capital is safe and they are not comfortable investing in equities. They would rather keep their money in the bank and are unlikely to have much experience of other investments. • They will usually suffer from severe regret if their decisions turn out badly. • Investors need to understand that their caution can mean that their investments may not keep pace with inflation or that they may fall short of their investment goal. • Investors with time horizons of ten years or more typically have portfolios with a majority of bonds and cash, with little exposure to equities or other higher risk investments.
Low-mid risk	• Prefer not to take a risk with their investments, but they can be persuaded to do so to a limited extent. They would prefer to keep their money in the bank, but they may realise that other investments might be better over longer term. • They can often suffer regret when decisions turn out badly. • Investors with time horizons of ten or more years typically have portfolios with a majority of bonds and cash, but with some exposure to equities and other higher risk investments.
Mid risk	• Understand that they must take on investment risk to meet their long-term goals. They are often more willing to take risk with at least part of their available assets and may have some experience of investment, including investing in products containing higher risk assets such as equities and bonds. • They can usually make up their minds on financial matters relatively quickly, but they still suffer from some feelings of regret when their decisions turn out badly. • Investors with time horizons of ten years or more typically have portfolios with a mix of higher risk investments such as equities and lower risk investments such as bonds and cash.
Mid-high risk	• Willing to take on investment risk and understand the nature of the long-term risk/return trade off. They are willing to take risk with most of their available assets, are typically experienced investors and have used a range of investment products in the past. • They will usually be able to make up their minds on financial matters quite quickly. While they can suffer from regret when their decisions turn out badly, they can accept that occasional poor outcomes are a necessary part of long-term investment. • Investors with time horizons of ten years or more typically have portfolios with a majority of higher risk investments such as equities, but that also contain bonds and cash.

Investor Risk Appetites	
High risk	• Want the highest possible return on their capital and are willing to take considerable amounts of risk to achieve this. • They are usually willing to take risk with all of their available assets and have substantial amounts of investment experience. • High risk investors have firm investment views and will make up their minds on financial matters quickly. They do not suffer from regret to any great extent and can accept occasional poor outcomes without much difficulty. • Investors with time horizons of ten years or more typically have portfolios made up primarily of higher risk investments such as equities, with little in bonds and cash.

These descriptions are intended to be only illustrative and bring out common traits as every individual is different.

The results of risk profiling should support the KYC process and form a basis for discussion between the adviser and client as to the types of investments that such a risk profile would suggest are suitable. In those discussions, it is important that advisers consider the knowledge and experience of clients and properly discuss the nature of the risk they are willing and able to take. They should guard against situations where the customer commits to an investment selection on the basis of a misunderstanding of the level of risk involved.

The descriptions can be a helpful way to reflect the level of risk inherent in any subsequent investment selection. However, care should be taken where there are wide categories. For example:

- Where the risk a client is willing to take is at the low end of such a category, but the investment selection is reflective of the high end of the category this is likely to lead to unsuitable advice.
- Where there is a significant difference in the proportion that can be invested in equities for consecutive risk categories, this may create large jumps in the risk taken.

Firms should take steps to ensure that the client understands the notion of investment risk as well as the relationship between risk and return on investments. To enable the client's understanding of investment risk, firms should consider using indicative, comprehensible examples of the levels of loss that may arise depending on the level of risk taken and should assess the client's response to such scenarios. The client should be made aware that the purpose of such examples, and their responses to them, is to help determine the client's their risk profile, and therefore the types of financial instruments (and risks attached to them) that are suitable.

Engaging with the client to check that the risk they are willing and able to take has been correctly assessed is a reasonable step firms can take to ensure that the outcome is suitable as long as:

- the descriptions and illustrations used in the process are drafted and presented in a way that explains the investment risk in a way that is fair, clear and not misleading, and
- the explanations clearly differentiate the level of risk between categories.

3.3.5 Risk-Profiling Tools

Risk attitude is a complex area and as a result risk profiling is not an exact science. There are a number of approaches that can be taken to establish the client's attitude to risk, including questionnaires, numerical scales, computer-based assessments and graphical representations.

Risk-Profiling Tools	
Risk descriptions	• A much-used approach to establishing a client's risk profile is to describe different types of investment attitudes to find out which is closest to the client's view. • This has the advantage of simplicity. • Its drawback is that statements such as medium risk or on a scale of one to ten mean different things to different people.
Psychometric risk profiling	• The aim of psychometric risk profiling is to assess the client's psychological risk tolerance or preference, rather than their objective financial capacity to take risks. • It uses a questionnaire to generate a risk score that can be compared to other clients. • Its advantage is that it allows clients to consider their attitude to investment decisions very carefully and to articulate them to the adviser, who can ask further questions and discuss the relationship of risk to the behaviour of different asset classes. • It is important to remember though that the psychological profile is only one of the inputs into the investment decision-making process. But it is a good starting point to a discussion that could include the impact of the profile on potential outcomes for the client's different goals.
Stochastic modelling	• Stochastic modelling software usually incorporates a risk-profiling questionnaire to help assess a client's attitude to risk. The answer to each question is given a score, which helps identify the client's risk category and is an excellent tool to aid further understanding of an individual's willingness to take financial risk. • The stochastic model can then be used to forecast a range of possible returns from different portfolios of investments. It helps clients choose the appropriate portfolio by showing the range of possible outcomes from each portfolio and the probability of achieving them. Its advantage is that it helps to explain investment risk to the client, compare alternative strategies and recommend a portfolio of suitable investments. • It is important to understand that the model is making predictions about the future and is, therefore, reliant on its assumptions. A further drawback is that some clients may think these projections are set in stone.

Computer-based assessments and psychometric-profiling tools are widely available from a number of different sources, both as stand-alone software packages and online. These offer a more scientific approach to establishing risk and often incorporate some or all of the elements listed above, including graphical representations, numerical scales, direct statements and closed questions.

Where advisers are reliant on risk profiling models, they need to understand the nature of the assumptions underlying the model and it is important not to place excessive reliance on modelled predictions of the future. They are only guidelines as to what might happen based on reasonable assumptions. Predictions are bound to vary as circumstances change. There are also events that it is not possible to predict. Furthermore, different models may well come up with a range of predictions.

Although there is increasing use of computer-based risk-profiling tools, the most important part of the process is usually the discussion between the adviser and the client. Tools can usefully aid discussions with clients by helping to provide structure and promote consistency. But they often have limitations which mean there are circumstances in which they may produce flawed results.

Where firms rely on tools, they need to ensure they are actively mitigating any limitations through ensuring suitability and the KYC process. It is important to stress that a risk-profiling tool cannot negate an adviser's obligation to carry out a thorough amount of fact finding and confirm suitability.

3.4 Investment Objectives and Constraints

Having collected all of the core information needed about the client, the adviser can then turn to agreeing their investment objectives.

The main client objectives are concerned with return requirements and risk tolerance. If an investor expresses their expectations only in terms of returns, there is a danger that a high target return will lead to an investment manager investing in higher risk assets and the resulting risk may not be acceptable to the client. The primary factor to consider is the risk tolerance of the client, including their ability and willingness to take on risk. In other words, it is necessary to start with a client's 'hoped for' target return and then temper this by applying their attitude to, and capacity for, risk to end up with a more balanced view of their objectives.

3.4.1 Investment Objectives

In collecting the information above, the adviser will have started to build a picture of the client's needs and will classify these needs along the lines of:

- maximising future growth
- protecting the real value of capital
- generating an essential level of income, and
- protecting against (provision for) future events.

The purpose of collecting this information is so that there can be a common understanding of what the client is trying to achieve. The adviser may not personally manage the client's investment portfolio and so there is a need to have common terms of reference so that any investment decisions are suitable for what the client is aiming to achieve. The adviser will, therefore, want to ensure that the client understands the terminology being used and agrees that the correct investment objective has been selected. A typical definition of each investment objective is as follows:

- **Income** – the client is seeking a higher level of current income at the expense of potential future growth of capital.
- **Income and growth** – the client need a certain amount of current income but also wants to invest to achieve potential future growth in income and capital.
- **Growth** – the client is not seeking any particular level of income and their primary objective is capital appreciation.
- **Outright growth** – the client is seeking maximum return through a broad range of investment strategies which generally involve a high level of risk.

Once the client's investment objectives have been agreed, the adviser needs to look at developing an investment strategy that can be used to achieve these objectives. In developing an investment strategy, the adviser will need to determine the:

- risk profile
- investment preferences
- liquidity requirements
- time horizons, and
- tax status.

We will look at each of these in the following sections.

3.4.2 Risk Profile

Volatility in the prices of investments or the overall value of an investment portfolio is inevitable. At a personal level, this translates into the risk that prices may be depressed at the time when an investor needs funds and will mean that they will not achieve their investment goals.

A client needs to have a very clear understanding of their attitude to risk, as it is essential to choosing the right investment objectives. Risk attitude is a very subjective subject and is very dependent upon the emotional makeup of a person. It is also objective as well, in that age will affect how much risk a client can assume because, as you get older, there is less time to recover from poor investment decisions or market falls and so appetite to take risks may change. Experience of investing and having wealth/assets already can also influence, in a greater way, the client's risk levels (otherwise known as the client's utility to risk).

Although risk is an emotive subject, establishing a client's tolerance towards risk need not be subjective. Indeed, an objective measure of a client's risk tolerance is provided by the risks that will need to be taken if the client's stated investment objective is to be met. If the client believes these risks are too great, then the objective itself will need to be revised.

Attitude to risk will affect the investment strategy that is implemented. Firms will generally have their own set of definitions and will want to categorise a client within one so that suitable investments can be selected. To properly understand a client's attitude to risk, the adviser needs to link this back to their investment objectives and demonstrate how the selection of a risk classification will drive the choice of investments held in a portfolio. The adviser should ensure that:

- Risk is explained in terms that a client can understand.
- Where the client has little experience or knowledge of investments, a detailed and clear explanation of the inherent risk of each investment is given.
- When presenting investment recommendations, the adviser should explain why the recommended investments are consistent with the client's attitude to risk.

It is essential to remember that ascertaining a client's true attitude to risk and capacity for loss is critical to assessing suitability and making any investment recommendation.

3.4.3 Investment Preferences

An adviser will also need to establish whether the client has any specific investment preferences that need to be taken account of within the investment strategy. These may take the form of restrictions or a requirement to follow a particular investment theme.

Some investors may wish to impose restrictions on what should be bought and sold within their portfolio. For example, they may impose a restriction that a holding cannot be disposed of, or they may prefer to exclude certain investment sectors from their portfolios, such as armaments.

Alternatively, a client may want to concentrate solely on a particular investment theme, such as ethical and socially responsible investment, or may require the portfolio to be constructed in accordance with Islamic principles. Ethical and socially responsible investment is considered later in this chapter.

3.4.4 Liquidity Requirements

A client may have known liabilities that will arise in the future which will need to be planned for, but it will also be necessary to factor in how the client will raise funds if needed. Markets can be volatile and so the investment strategy needs to take account of the need for funds to be readily realisable without having to sell shares at depressed prices.

- Liquidity refers to the amount of funds a client might need both in the short and long term.
- When constructing an investment portfolio, it is essential that an emergency cash reserve is put to one side which the client can access without having to disturb longer-term investments.
- If there are known liabilities that may arise in future years, consideration should also be given as to how funds will be realised at that time.
- Consideration needs to be given as to whether it is sensible to plan on realising profits from equities from time to time as market conditions may be such as to require losses to be established unnecessarily.
- Instead, conservative standards suggest investing an appropriate amount in bonds that are due to mature near the time needed so that there is certainty of the availability of funds – subject, of course, to the prices of the bonds and the availability of suitable ones.

In planning terms, the adviser should agree with the client regarding how much of a cash reserve should be held. Recognising the long-term nature of investment, this should represent their expected cash needs over say, three to five years.

This should then be supplemented by ensuring that the portfolio will contain investments that are readily realisable in the event of an emergency, and which otherwise will be available to top up the cash reserve in future years. One way this could be achieved is by using a bond ladder, which involves buying securities with a range of different maturities. Building a laddered portfolio involves buying a range of bonds that mature in say, three, five, seven and ten years' time. As each matures, funds can become available for the investor to withdraw or can be reinvested in later maturities. Alternatively, structured products such as guaranteed capital growth bonds could meet the same objective.

The liquidity of different asset classes, such as corporate bonds and property, is becoming more topical, and the matching of a client's liquidity profile, at the outset, to assets invested, is becoming much more commonplace.

The lower the client's liquidity requirements and the longer their timescale, the greater will be the choice of assets available to meet the client's investment objective. The need for high liquidity allied to a short timescale, demands that the client should invest in lower-risk assets such as cash and short-dated bonds, which offer a potentially lower return than equities; if the opposite is true, the portfolio can be more proportionately weighted towards equities and other risk assets. Whatever their requirements, it is important, however, that the client maintains sufficient liquidity to meet both known commitments and possible contingencies.

3.4.5 Time Horizons

Time horizon refers to the period over which a client can consider investing their funds. Definitions of time horizons vary, but short term is usually considered to be from one to four years, while medium term refers to a period from five to ten years and long term is considered to be for a period of ten years or more.

Time horizon is very relevant when selecting the types of investment that may be suitable for a client. It is generally stated that an investor should only invest in equities if they can do so for a minimum period of five years. This is to make the point that growth from equities comes about from long-term investment and the need to have the time perspective that can allow an investor to ride out periods of market volatility.

Assuming that the client is able to invest for the longer term then their stage of life will have an important effect on the investment strategy followed.

The investment strategy that is developed to meet their needs will use an asset allocation process to design a portfolio that fits with the client's personal circumstances, investment objectives, attitude to risk and capacity for loss. The adviser needs to recognise, however, that this will change as the client gets older and so as their requirements change, the investment strategy will need to change with them as will the percentages allocated to different asset classes. A client in their 30s or 40s who is investing for retirement will want to aim for long-term growth and be prepared to accept a higher risk in order to see funds grow. As retirement approaches, this will change as the client seeks to lock in the growth that has been made and, once they retire, they will be looking for investments that will provide a secure income that they can live on.

As a process, it is known as 'lifestyling'. Many firms now offer lifestyling as an investment option for retirement planning. Lifestyling is designed to lock in accumulated investment growth in an investor's retirement pot as they get closer to their retirement date. Lifestyling involves investing in riskier assets when the investor has a long period before drawing their retirement benefits. As they get closer to their retirement date, typically five to ten years before, switching from these riskier assets into less risky ones, such as cash or fixed interest, that less likely to be affected if the investment markets were to fall sharply, helps to keep the investment growth, during the period up to their retirement.

Below, we will look at some simple asset allocations to explore this point. For this example, we will take a UK-based client with a moderate attitude to risk and suggest some potential asset allocations that could be used at different ages in order to explain how their changing circumstances and investment objectives might be reflected in their asset allocation. A client's experience of investing, and where they are in the stage of their life, have an equal bearing on their attitude to risk, hence a more holistic attitude to wealth advice needs to be undertaken to determine what wealth/investment strategy is recommended.

Age Group: Under 40

With at least 20 years to go to retirement, the client is building up their income and savings for the future. They can afford a high degree of exposure to the stock market and can accept the likelihood of greater volatility in smaller companies and international shares and higher risk assets in exchange for the higher long-term returns that can be generated.

Asset Class	Under 40
Cash	2.5%
Bonds	7.5%
UK shares	35%
International shares	42.5%
Alternative investments	12.5%

Age Group: 40 to 49

The client is now more financially secure with greater income but expenses are building up for the children's education. On the investment front, the long term is now becoming the medium term as there are fewer economic cycles to ride before retirement. It is time to gradually reduce the exposure to equities and increase the proportion in bonds.

Asset Class	Under 40	40 to 49
Cash	2.5%	2.5%
Bonds	7.5%	12.5%
UK shares	35%	32.5%
International shares	42.5%	37.5%
Alternative investments	12.5%	15%

Age Group: 50 to 55

Previously, this age bracket would have stretched until age 59, but this has shortened since the advent of pensions freedoms with most retirees now being able to access their accrued pensions from 55. The client is probably far better off now than ever, the children have left home and they have a greater level of disposable income that they are using to meet their dreams and enjoy greater leisure activities. This client will also be increasing their savings, as protection policies could be coming to an end and mortgage payments are now less. Maintaining this will be important, as will greater security in their finances, as they will not want a stock market downturn to ruin the work in growing their assets.

Asset Class	Under 40	40 to 49	50 to 55
Cash	2.5%	2.5%	5%
Bonds	7.5%	12.5%	17.5%
UK shares	35%	32.5%	30%
International shares	42.5%	37.5%	32.5%
Alternative investments	12.5%	15%	15%

Age Group: 55 to 69

The client has now reached that age where accumulating wealth has given way to the need for income and stability. The portfolio will now need to generate income to enable the client to maintain their standard of living and this will involve further reducing the exposure to equities and increasing the percentage held in cash assets.

Asset Class	Under 40	40 to 49	50 to 55	55 to 69
Cash	2.5%	2.5%	5%	5%
Bonds	7.5%	12.5%	17.5%	25%
UK shares	35%	32.5%	30%	30%
International shares		37.5%	32.5%	22.5%
Alternative investments		15%	15%	17.5%

Age Group: 70 and Over

The client is now in a position where they need absolute certainty that they have an investment portfolio that can meet their income needs and are little prepared to put their capital at risk.

Asset Class	Under 40	40 to 49	50 to 55	55 to 69	70 and over
Cash	2.5%	2.5%	5%	5%	5%
Bonds	7.5%	12.5%	17.5%	25%	
UK shares	35%	32.5%	30%	30%	
International shares		37.5%	32.5%	22.5%	
Alternative investments		15%	15%	17.5%	22.5%

These are examples only but demonstrate how the adviser can use asset allocation as a tool for ensuring that the high-level construction of the recommended portfolio matches the client's circumstances and their attitude to risk. Wealth managers should always be mindful of the changing risks to capital over the long term, including market sensitivity for equities and interest rate risk for fixed income. Candidates should continually critique rather than generalise asset classes on an ongoing basis, based on macroeconomic data, valuation and market behaviour. Only then can candidates review their asset allocation against client objectives and risk profile.

The key point to note is that it is the client's circumstances and attitudes that drive their investment objectives and attitude to risk. Once they are established, asset allocation can be used as a tool to determine how a portfolio can be constructed that meets those needs. Only when that is done can the choice of underlying funds be considered.

To avoid concentrating on equities in the above tables, which in theory is a volatile asset class, a more diversified multi-asset class approach can be considered to lower equity-related volatility. By that, you can lower the volatility in portfolios and enhance returns and income.

3.4.6 Tax Status

The tax status of the client and the taxes to which any investment income or gains will be subject may have a major impact on the investment strategy that is adopted.

The adviser will, therefore, need to establish:

- the client's residency and domicile position
- the client's income tax position
- how tax will affect any investment income
- any tax allowances which can be utilised
- how tax will affect any gains or losses made
- any CGT allowances which can be utilised
- eligibility for any tax-free accounts, and
- opportunities for deferring any tax due.

An adviser must establish the client's residence and domicile status, as they may affect how any investments are structured. Although tax rules vary from country to country, establishing the client's tax position is essential so that their investments can be organised in a way that attracts the least tax possible on returns. This requires the adviser to be aware of what taxes may affect the client, such as income tax or CGT, how these are calculated and what allowances may be available.

The tax status of the client and tax liability on any investment income or gains may have a major impact on the investment strategy that is adopted and how a portfolio is constructed. For example, with a higher rate taxpayer, the strategy adopted may be to target achieving capital growth with low-income levels to maximise the after-tax return.

3.5 Analysing a Client's Financial Position

Once the fact-find and discussions with the client has taken place the next stage is to collate all of the data that has been collected, analyse the client's financial position and prioritise the areas where action is needed. This involves turning the data into a comprehensible form that allows it to be readily analysed. This can be broken down into a number of areas such as:

- Net assets statement.
- Cash flow statement.
- Tax analysis.
- Lifetime cash flow projections

3.5.1 Net Assets Statement

The net assets statement is simply a personal balance sheet that shows the client's assets and liabilities and their net worth.

It is useful to have a structured approach to preparing a balance sheet as ordering the assets and liabilities in groups will aid the analysis of the client's position and makes it clearer and easier to identify any issues that need to be investigated further.

A simplified balance sheet format is shown below.

Assets		
Cash Assets	Current Accounts Savings Accounts Total	$ $ $
Property	Address Property Funds Total	$ $ $

Bonds	Government Bonds Corporate Bonds Bond Funds Total	$ $ $ $
Equities	Direct Equities Equity Funds Total	$ $ $
Alternative Assets	Hedge Funds Absolute Return Funds Structured Products Total	$ $ $ $
Other Assets	Insurance Bonds Pension Funds Other Assets Total	$ $ $ $
Total Assets		**$**
Liabilities		
Property	Mortgage – Address Mortgage – Address Total	$ $ $
Other Liabilities	Credit Cards Loans Total	$ $ $
	Total Liabilities	$
Net Worth		**$**

As most clients' assets are complex, it would make sense to have separate statements for each asset class that show the detail of what the client's position is so that the above example becomes a summary statement. By presenting the statement in this summary way, the client's assets and liabilities can be clearly seen.

An asset allocation summary should also be produced showing the percentage of assets allocated to different asset classes and yields.

- Each asset class can then be further broken down globally and into allocations to areas such as large cap shares, sub-sectors or by overall sector.
- Some investments, such as investment bonds or multi-asset funds, fall into more than one asset class. They can be shown separately but another usual approach is to apportion the fund between the asset classes, depending on the most recent distribution of the fund.
- A similar approach can be adopted for pension funds where the client can have control over how the funds are invested and allocated between asset classes.

Presenting the client's assets in this way allows an analysis of their current position to be undertaken and then compared against their investment objectives and risk profile. The analysis should look to identify a range of issues including:

- Any mismatch between the client's risk profile and the overall portfolio.
- Whether the assets are appropriate for the client's objectives.
- Any over-allocation to one asset class or market.
- Whether there are too many products with one provider.
- An assessment of the probability of the client meeting their investment targets.

The structure of the portfolio and the past performance of investments and funds can then be investigated to identify:

- Asset class, sector and market percentage breakdown.
- Large exposures to single investments.
- Past performance of individual investments and mutual funds.
- Volatility of the individual investments held compared to the client's risk profile.
- The drawdown for the portfolio compared to the client's risk profile – that is the maximum percentage loss in value over the period of ownership.

The results of this analysis should generate a series of issues that require addressing for an optimal investment solution that meets the client's needs.

3.5.2 Cash Flow Statement

A cash flow statement will show the client's income and expenditure. The content of the statement will be determined by factors such as the complexity of the client's income sources and the extent to which income is an important factor in the evaluation of an investment strategy.

A simplified format of a cash flow statement based on the summary balance sheet used previously is shown below.

Income		Monthly	Annually
Cash Assets	Current Accounts	$	$
	Savings Accounts	$	$
	Total	$	$
Property	Address	$	$
	Property Funds	$	$
	Total	$	$
Bonds	Government Bonds	$	$
	Corporate Bonds	$	$
	Bond Funds	$	$
	Total	$	$
Equities	Direct Equities	$	$
	Equity Funds	$	$
	Total	$	$
Alternative Assets	Hedge Funds	$	$
	Absolute Return Funds	$	$
	Structured Products	$	$
	Total	$	$
Other Assets	Insurance Bonds	$	$
	Pension Funds	$	$
	Other Assets	$	$
	Total	$	$

Total Income		$	$
Outgoings		**Monthly**	**Annually**
Property	Mortgage	$	$
	Maintenance	$	$
	Total	$	$
Other Liabilities	Household Expenses	$	$
	Holidays and Discretionary Spending	$	$
	Total	$	$
Total Outgoings		$	$
Net Income		$	$

Sources of income should be shown after tax.

As each individual's income and expenses vary widely according to circumstances, the actual headings used could be very different depending on the client. The summary could also show how much expenditure is fixed and how much is discretionary.

The reason for preparing a cash flow statement will vary by client but could include:

- Quantifying the income that needs to be generated from investments to meet the client's income requirement.
- Identifying where there is a surplus of income over expenditure and the opportunities to plan the investment of these funds.
- Current cash flow can also be used as a basis of estimating future income and expenditure in retirement and what would happen if the client became seriously ill and was unable to work.

3.5.3 Tax Analysis

Tax can have a major impact on both income and the capital and consequently on the selection of investments that are appropriate for a client. However, it is of such importance that it deserves its own area.

An understanding of how a client's income is taxed is essential. Tax calculations will point to whether income-generating assets or capital growth is the more appropriate and tax-efficient approach. Calculating net income after tax is an important part of the cash flow statement. The analysis could be included in the presentation to the client at that point or separately in the overall tax analysis. Where an investment or other asset may be sold at some point, it is worth providing an estimate of the CGT or income tax that might be payable.

If a client is liable to CGT, details of the acquisition costs are needed to identify any liability to tax that may arise on disposal of their current assets and whether timing of such disposals is needed.

The aim of the analysis should be to highlight the key issues in income tax and CGT planning for the client. These might include:

- How much income is subject to tax at higher rates, to highlight the opportunities for tax relief on pension contributions and other tax-advantaged investments that may be available.
- Tax planning opportunities in terms of spreading the ownership of assets between spouses and civil partners and making full use of the tax allowances, or with regard to wealth tax, the use of nil-rate bands or exemptions.
- The use of inappropriate tax wrappers in relation to the underlying investments held in a tax wrapper.
- The potential CGT or income tax liability on switching investments.
- Where appropriate, the scope for avoiding some CGT by spreading disposals over more than one year to maximise use of the client's annual CGT exemptions.
- The likelihood that the client will become a lower rate taxpayer at some point in the future, at which time it might be worth encashing investments that would then be subject to the lower rate tax.

3.5.4 Lifetime Cash Flow Projections

A lifetime cash flow projection is one that can be prepared once the analysis of the client's circumstances have been completed and will incorporate cash flows based on existing assets and investment recommendations.

It shows longer-term cash flow movements in order to identify where clients will have surplus or deficits and is useful to identify precisely what actions are needed. These cash flow projections provide year-by-year summaries of cash paid to the client and cash paid out by the client, showing those years in which there is a surplus and the years in which there is a deficit and demonstrating the potential accumulated surplus or deficit. These are best presented as a combination of figures and graphics and can be a powerful tool as it allows the client to see what will take place in a clearer and more understandable form.

Lifetime cash flow projections are increasingly being used to forecast clients' income and expenditure profiles over the long term. The lifetime cash flow is a powerful tool because it allows the client to see their whole life in financial terms in a single illustration. The projections provide a form of year-by-year gap analysis. The aim is to see whether the client can maintain their lifestyle and meet their financial goals. If the client cannot achieve these aims, the lifetime cash flow will identify the point at which they are likely to run out of money.

Projections can also take into account expected returns from investments but these should be viewed very cautiously. Predicting future returns is notoriously inaccurate, so why would a structured advice process rely on an imponderable? Far better, is to show clients what it is realistic to expect and then discuss the potential for a better outcome if the investment solutions selected perform as hoped and vice versa, what the potential downsides are.

There are several computerised packages that reduce the amount of time and effort in compiling the data and making the analysis, but the principles are essentially the same and the process can be done on a plain spreadsheet or even by hand, although it can be very complicated. The computer programs vary in their sophistication and the degree to which they make very broad assumptions about future income and expenditure and such aspects as tax. It is important to understand the principles and to be sceptical of the outcomes; otherwise, the 'GIGO' (garbage in, garbage out) principle may apply.

3.6 Recommendations

After determining a client's objectives and risk profile and after analysing the client's current financial position and any constraints, the final stage of the investment advice process is the development of solutions that are suitable for the needs of the client.

3.6.1 Prioritisation and Affordability

The importance of gathering KYC information and building a detailed picture of a client's personal and financial circumstances, current and future needs and aspirations have been covered in detail. It is vital to be able to effectively identify them and respond to them while bearing in mind that not all needs can be addressed immediately, and that the client may not be able to afford to fund each product/service at once.

As discussed in earlier sections, a client's perception of need may be different from the reality, and it is important for the adviser to anticipate how these needs may change as the client passes through key life events and, therefore, build a degree of flexibility into the advice given.

It is important to recognise that the client may have a specific need but not wish to address the need at the time or may not be able to afford to do so. In such cases, the responsibility of the adviser is to make the client aware of the relative importance of the requirement, any implications of not addressing the issue, and any future strategies that could be employed when the client is ready to proceed.

It is important to know the amount of any available investible capital and any surplus monthly (or annual) income that the client may have available towards meeting goals and objectives, to ensure that any recommendations made in the financial plan are affordable and to decide which goals and priorities should be dealt with in the plan if it is apparent that there are insufficient assets to deal with all of them at this time.

Advisers operate in a complex marketplace and deal with often complex financial issues for clients and, as each client's circumstances are different, there will inevitably come a time where the adviser is faced with a situation where a suitable product for a client's needs simply does not exist.

Where no suitable product is available, no recommendation should be made. Part of the issue surrounding the provision of advice where no suitable product exists is that of the potential for misselling, especially if the client perceives that an adviser has recommended a product in order to charge a fee rather than to suit the client.

3.6.2 Recommendations

Advisers should ensure they have enough personal and financial information about a client to be able to give suitable financial advice, in particular, whether the client:

- can afford the recommended investment or other financial product
- understands the risks involved in the investments, and
- understands how the recommendations meet their aims and needs.

We will look at the development of investment solutions in the following chapter.

3.6.3 Presenting Recommendations

Providing a written report to clients is an important part of the process of giving financial advice.

A written report provides a way of putting across recommendations that have already been made orally in meetings with clients. The written format makes some aspects of observations and recommendations easier for the client to understand.

Furthermore, providing a written report is clearly an important way of providing a record of what is being recommended, and on what key information it is based. A report in writing should avoid the potential for misunderstandings about the advice that has been given, thus acting as a safeguard for the adviser in justifying their work, as well as a document of record for the client.

The parts of a financial planning report to a client are normally as follows:

- A statement of the client's objectives.
- A summary of the client's income and assets and other relevant circumstances or problems.
- Recommendations, including any proposals for immediate action, as well as longer-term suggestions for the client to consider in the future. These should be backed up by the reasoning behind them – why they are felt to be suitable – and any risks or inflexibilities inherent in the proposed solutions. These recommendations should include timescales for implementation.
- Appendices, including any data that is best presented separately, if appropriate.

Product quotations, illustrations and brochures should be presented in an orderly way, possibly with an index listing the various items being sent to the client. The language in the report should be as concise and clear as possible. The language used should not include jargon, except when necessary to explain points being made.

Following the preparation of a written report, it is often sensible to have a face-to-face meeting with the client, to give them an opportunity to clear up any misunderstandings that may have arisen with regard to their objectives, and to allow them to ask questions where needs be.

3.6.4 Future Reviews

As we have seen, financial planning is a cyclical process, and it is the regular reviews of the financial plan that enable this cyclical process.

Ultimately, the objective of each review is to tell the client whether they remain on track to meet their objectives, and, if not, what additional actions may be required. The regular reviews may be an opportunity to consider whether a client's investment portfolio may need to be rebalanced towards a target asset allocation. Regulations require that where an investment firm has an ongoing relationship with the client, it should establish appropriate procedures in order to maintain adequate and updated information about the client.

A financial plan should, generally, be reviewed at least every 12 months, but ad hoc reviews may also be required if, for example, the client experiences a significant change of personal circumstances. The review should look at a range of factors including:

- Reviewing the previous advice in light of any changes to the client's circumstances and revising recommendations where necessary.
- Changes to goals and objectives and the amounts targeted.
- Reviewing and amending the assumptions used, where relevant, to take account of changing market conditions, investment returns and future inflation rates.
- Net worth and income and expenditure.
- Asset allocation and client risk profiles (including rebalancing portfolios).
- Suitability of products and product wrappers held and revisiting the risk appetite and capacity for loss of the client.
- Obtaining any documentation that may be required in the review meeting.
- Checking existing terms of business documentation, and preparing updated documents, where necessary.

In some cases, significant changes to one or more of the above may require that a new financial plan is drafted; in others, the existing plan may be amended and updated. But in either case, it is important that the client continues to fully understand how the financial plan works and how it will help them to meet their objectives.

For financial planning to be effective, it must continually adapt to the circumstances, priorities and aspirations of the client, which are guaranteed to change due to key life events, career changes, increasing age, a growing or diminishing family, changes in health and desires or needs. At each step or point in their life, the client is faced with numerous choices plus some options they may not be aware of. Providing financial advice to a client continues throughout a working life and does not stop, even at the point of retirement.

Indeed, there have been many documented cases where firms have not provided an annual review to clients, but nonetheless the charges levied, and the terms and conditions include such an annual review. This brings us back to suitability of fees, charges and service.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. How would you explain to a client why a structured investment process is of benefit to them?
   Answer reference: Section 1.1

2. What are key principles that fiduciary standards should embrace?
   Answer reference: Section 1.2.4

3. Why does an understanding of behavioural finance assist in establishing a client's goals and expectations?
   Answer reference: Section 1.3 and 3.1

4. How might a client's health status affect their attitude to investment risk?
   Answer reference: Section 3.2.2

5. How might future potential inheritances affect how a client may approach the choice of investments and risk level?
   Answer reference: Section 3.2.8

6. What three components need to be established in order to determine a client's risk profile and in what order should they be established?
   Answer reference: Sections 3.3

7. How does risk tolerance differ from attitude to risk?
   Answer reference: Section 3.3

8. Why are liquidity and time horizons important considerations when advising clients?
   Answer reference: Section 3.4.4 – 3.4.5

9. How can a lifetime cash flow projection assist a client in planning their finances in retirement?
   Answer reference: Section 3.5.4

10. Why do regular reviews form an important part of the service that advisers offer clients?
    Answer reference: Section 3.6.4

Chapter Seven

Investment Selection

1. **Investment Strategies** 451
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3. **Investment Planning and Recommendations** 525

This syllabus area will provide approximately 12 of the 80 examination questions

After determining a client's objectives and risk profile and after analysing the client's current financial position and any constraints, the final stage of the investment advice process is the development of solutions that are suitable for the needs of the client.

1. Investment Strategies

Learning Objective

7.1.1 Be able to analyse and select strategies suitable for the client's aims and objectives in terms of: investment horizon; current and future potential for growth and yield; requirement for capital protection; protection against inflation; liquidity, trading and ongoing management; mandatory or voluntary investment restrictions; impact of tax; impact of fees and charges

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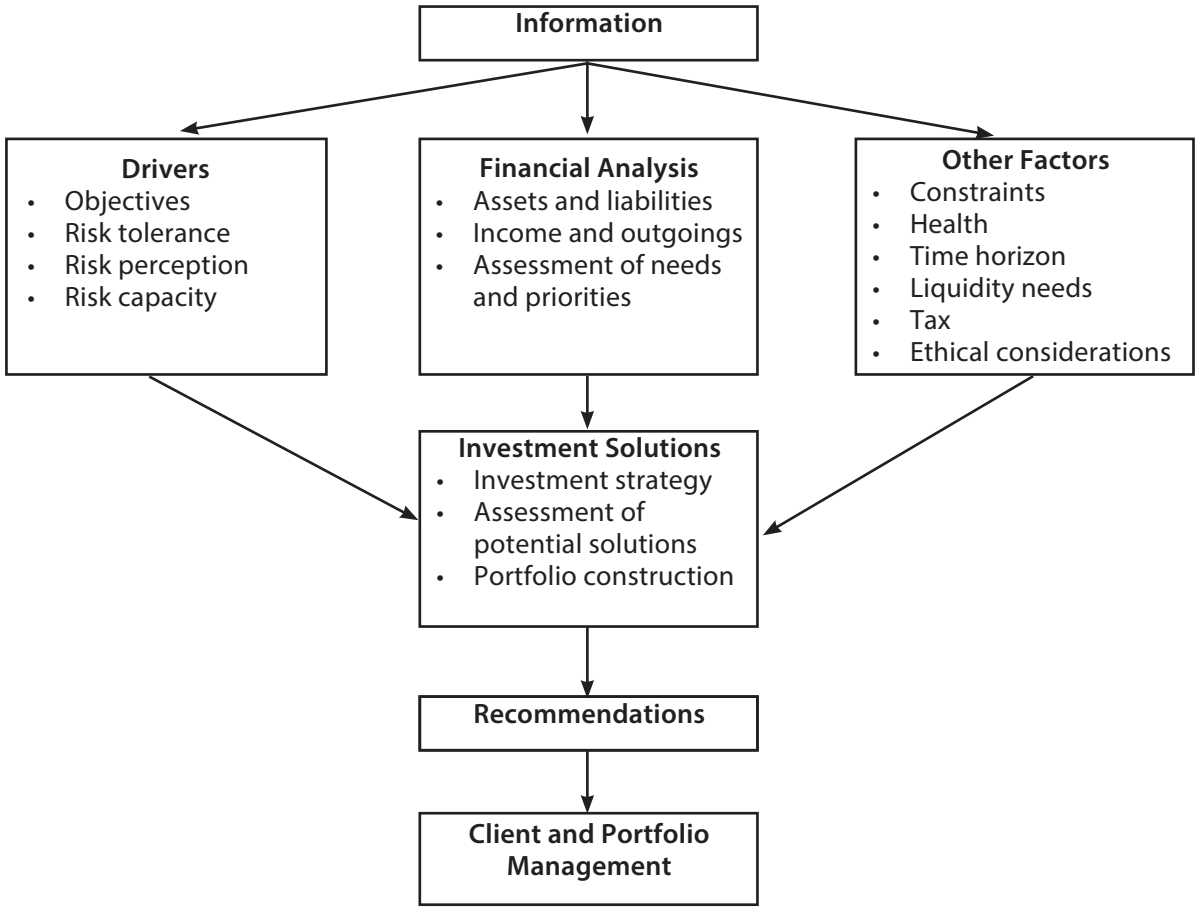
When undertaking investment planning, the process can be broken down into consideration of the following areas:

- Collate all the relevant client information.
- Assess the level of risk the client is willing to face and their understanding of risk.
- Determine the feasibility of the risk and return expectations and goals of the investor.
- Determine the client's ability to withstand losses, capacity for loss and what the client feels comfortable with (eg, through attitude to risk tools, stochastic projections or potential loss in any one year).
- Establish the macroeconomic backdrop, risk and liquidity drivers.
- Identify any other considerations and constraints (soft facts).
- Review the range of solutions and identify which is most suitable for the client.
- Decide whether the strategy will invest into direct assets or use indirect investment products.
- Construct a portfolio based on the investment strategy.
- Present the recommendations to the client, with the associated product documentation and any risk warnings including the suitability of the recommendation and why you have discounted other possible solutions.
- Where relevant, consider the client's circumstances (and any underlying regulatory rules) in relation to certain types of assets or potential vulnerability.

The process can be seen diagrammatically as follows:

Investment Planning Process



1.1 Selecting Suitable Investment Strategies

In order to be able to develop an appropriate investment strategy to meet the client's needs, the adviser will need to agree their investment objectives and the constraints under which they will operate.

1.1.1 Investment Objectives and Risk

Meeting an agreed investment objective, including selecting the investment risk to be taken, must be performed in a manner appropriate to a client's circumstances. Clients' circumstances are fundamental to portfolio construction. They help determine the level and type of risk to take, establish the type of dispersion that is tolerable within the period of investment, and determine the desired outcome.

Investment objectives are the client's desired outcomes – expressed clearly in terms of risk and return. Both of these desired outcomes are interdependent. Even though a client may desire a certain return, there will be constraints limiting that investor's ability to take full advantage of all of the investment possibilities. For example, constraints may be internal, such as a client's specific needs for liquidity

provision at certain points in time, target date requirements for income and wealth, or other unique considerations. From an external perspective, there may be constraints imposed by tax, legal or regulatory regimes.

Investment firms use different terminology to describe investment objectives which will generally fall into one of four main categories:

- Maximising future growth.
- Protecting the real value of capital.
- Generating an essential level of income.
- Protecting against (provision for) future events.

An investment objective will rarely be described in isolation; instead, it will include the investor's risk description. The 'label' given to the client's investment objectives will drive a particular asset allocation, so great care needs to be taken ensuring this accurately reflects the investor's requirements.

To make this point further, an example of this is shown in the table. For this example, we will assume that we have a UK-based investor and that the risk-profiling system used classifies investors on a scale of 1 to 10 which then points to specific asset allocations. The following table shows how the asset allocation can differ for a client who has a balanced approach to risk depending on whether we rate them as either 4, 5 or 6 on the scale – ie, around the mid-risk mark. It is based on asset allocations in use at the time of writing from a UK-based investment firm.

Asset Allocation for a Growth Investor				
		4	**5**	**6**
Cash	Cash & Money Markets	49%	38%	27%
Bonds	UK Fixed Interest	0%	0%	0%
	International Fixed Interest	0%	0%	0%
Equities	North America	8%	10%	12%
	Europe	7%	8%	9%
	UK	11%	13%	16%
	Japan	2%	3%	3%
	Asia (excl. Japan)	8%	10%	12%
	Emerging Markets	4%	5%	6%
	Specialist	5%	6%	7%
Property		6%	7%	8%
Total		100%	100%	100%

From this you should note how the asset allocation changes between the different levels of risk even though these are all around the mid-risk mark. You can see the difference further by looking at the overall asset allocation differences.

	4	5	6
Cash	49%	38%	27%
Bonds	0%	0%	0%
Equities	45%	55%	65%
Property	6%	7%	8%
Total	100%	100%	100%

This example emphasises the need to ensure that the investment objective and risk label is appropriate and accurately reflects the client's risk.

As well as ensuring that the risk profile is accurately defined and used, the investment objectives need to take into account the return side of the risk-return equation. The return chosen must be in line with the risk objective and can be specified in real or nominal terms, both pre-tax and post-tax. Return requirements are typically dictated by growth or income objectives.

A common client objective is to build up a retirement fund that will meet the client's expectations in retirement. This could be either a desired return or a required return:

- **Desired return** – this is the return the client wants from the investment. The return may be unrealistic and/or based on optimistic expectations about future. Advisers may have to educate clients to ensure that expectations are realistic and consistent with specific risk objectives.
- **Required return** – this is the return that an investor needs to meet their future plans and liabilities. This requirement is quite different from the desired return, because if the client does not meet this objective they will face a shortfall.

Incorporating the client's investable funds, growth expectations and their estimated expenditure into present value and future value money calculations will show whether there is a likelihood of the objective being met or whether it is unrealistic and needs to be abandoned due to insufficient assets or time horizon.

Once the client's investment objectives have been agreed, the adviser needs to look at developing an investment strategy that can be used to achieve these objectives. In developing an investment strategy, the adviser will need to determine how the following will impact that strategy:

- Time horizons.
- Investment preferences.
- Liquidity requirements.
- Tax status.

1.1.2 Time Horizons

One of the most important issues to clarify within an investor's profile is their holding period or, in other words, the period for which they are committed to a particular investment programme. The phrase 'time horizon' refers to the period over which a client can consider investing their funds.

Definitions of time horizons vary, but short term is usually considered to be from one to four years, while medium term refers to a period from five to ten years and long term is considered to be for a period of ten years or more.

As an investment manager, it is essential to understand the time horizons over which a client is able and willing to invest, as these will also have a clear impact on the selection and construction of an investment portfolio.

Standard investment theory assumes that younger people have a high appetite for risk which reduces over time as an individual approaches retirement age. In theory, the faster rate at which riskier investments accumulate should be more attractive to the young, for they have longer time horizons. Older people are expected to have greater risk aversion as they are likely to desire safeguarding a future level of income. Evidence does not always confirm this however. For example, while the proportion of risky assets held in financial portfolios tends to decrease as age increases, the proportion of households holding some risky assets peaks between 50 and 70, before falling for people aged 70 years and over.

Nevertheless, development of investment policy requires a framework. Broadly, an individual's investment policy can move through four defined phases

Lifecycle Stage	
Foundation phase	• Individuals are starting to build an income and creating wealth. • Time horizons to retirement are longest and may be associated with a high tolerance to risk. • Individuals are ambitious and aspire to accumulate wealth in the future by taking on financial risks, if required.
Accumulation phase	• Individuals often have started or built their careers. • Earnings accelerate and investable assets start to accumulate. Expenses also increase through the establishment of a family and purchase of a home; childcare and educational expenses will be higher, leaving behind smaller surpluses for investment. • As the individual reaches middle and later years, expenses as a proportion of income may drop, especially for individuals who are careful financial planners. The surpluses for such a group can continue to rise, reaching a peak. • These circumstances will provide ample opportunities for individuals to increase funds for investment. At the same time risk tolerances may increase.

Lifecycle Stage	
Maintenance phase	• The individual has moved closer to retirement or is already retired. • Focus shifts to maintaining a desired lifestyle and financial security. Protecting accumulated wealth together with ensuring that there is sufficient income to live becomes an important requirement. At the same time, growth of accumulated wealth will decrease. • The individual's risk tolerance will decrease, further tempered by circumstances. Any investment losses may not be tolerated because there will be less time for recovery. • At this stage, the challenge is to preserve capital and to maintain exposure to risky assets in order to generate sufficient returns to provide purchasing power enjoyed in previous years. Arguably, this stage is the most challenging for an investment manager because a fine balance has to be struck.
Distribution phase	• Accumulated wealth that has been protected over the maintenance phase is now considered for distribution. • The beneficiaries of this wealth will often be family members or those close to the individual. • Important considerations in investment planning will involve tax-saving measures to maximise the after-tax value of wealth transferred to beneficiaries.

The accumulation, maintenance and distribution phases attract a lot of attention from financial planners. As we have noted, although the traditional models in investment finance assume that the investor is 'rational' and will adopt this approach to all investment decisions, the reality is that other factors such as personality, life experiences and personal circumstances can combine and play a stronger role in shaping emotions and decisions. Thus, individuals grouped according to life cycle stage may not demonstrate uniformity in terms of their investment requirements.

The effect of the investment timescale is particularly important for equity or equity-backed investments. Over short-term horizons, ie, less than five years, the returns from equities have often been negative but over very long-term horizons equities have usually shown a relatively high return which exceeds that of most other asset classes. Therefore, if an individual is only seeking to invest over a period of a few months, at the end of which they wish to redeem their investment, then it is inadvisable to invest the money in higher-risk investments such as equities as, given the volatility of equity returns there is an uncomfortably high probability that any investments made in equities for a short timescale may have to be liquidated at a loss. If there are known liabilities that may arise in future years, conservative standards suggest investing an appropriate amount in bonds that are due to mature near the time needed so that there is certainty of the availability of funds.

Time horizon is also relevant where clients are seeking to build up funds for retirement.

For example, let us assume that we have a client aged 40 who is seeking to build up a fund for retirement at age 60 and who expresses the need for the fund to generate a yearly income of $50,000 (for simplicity, we will ignore tax and inflation). If we estimate that in retirement their fund will be able to sustain an 'income' of 5% pa, then we can quickly see that they will need a retirement fund of $1 million. We then need to see whether that return is achievable or whether it requires unreasonably high returns and excessive risk. If it is not, then the client faces the following choices:

- accept that it is not feasible and replace the target income with a lower amount
- retire later to give longer for the fund to grow to the desired level
- increase their savings for retirement sufficient to generate the desired return, or
- a mix of the above.

1.1.3 Investment Constraints and Preferences

Some investors prefer to either exclude certain areas of the investment spectrum from their portfolios or concentrate solely on a particular investment theme, such as socially responsible or ethical investment; or require the portfolio to be constructed in accordance with certain religious principles. These are covered in more detail later in this chapter.

1.1.4 Liquidity Requirements

Clients may also have specific needs (liabilities) with timescales attached, which can include property purchase, school or university fees, medical expenses, or paying off borrowing.

In most cases, the funds required to meet these liabilities will be in the same currency as the client's current income or wealth (their base currency), however in some cases, liabilities will be denominated in different currencies. If this is the case, special care will need to be taken to address any undesired currency risk. A common way of achieving this for high-net-worth clients is by using **currency swaps** or forward agreements, in order to fix a particular foreign interest rate to protect from any adverse fluctuations in currency prices.

When a client has liabilities that are significant in relation to their wealth or earning power, that are due on a specific timescale, it will be necessary to develop clear strategies to meet them. It is quite possible that such liabilities could become a major focus in the wealth/investment management process. In this case, it may make sense to work backwards from the future target liability and its due date to the present to determine what level of investment and returns will be required at each step of the way.

The consequences of failing to meet the future target liability at its due date should also be considered, since this may impact the acceptable level of risk that can be taken. For example, if a client needs a lump sum from their funds in three years' time to pay off borrowing for a property, then investing in equities could be a high risk strategy. Equity markets might rise over that period and they could use those gains to pay off the borrowings. Equally, realising funds to repay the borrowings could be needed at the worst possible time leading to a shortage of funds or the client having to choose whether to realise equities at a loss or sell the property.

When constructing an investment portfolio, it is essential that an emergency cash reserve is put to one side that the client can access without having to disturb longer-term investments. Keeping funds liquid brings the benefit of accessibility but there is a trade-off in terms of returns: the most liquid investments, such as cash or instant access accounts, will have relatively lower returns than other assets.

The lower the client's liquidity requirements and the longer their timescale, the greater will be the choice of assets appropriate to meet the client's investment objective. The need for high liquidity, allied to a short timescale, demands that the client should invest in lower-risk assets such as cash and short-dated bonds, which offer a potentially lower return than equities.

1.1.5 Tax Status

Establishing the client's tax position is essential so that their investments can be organised in such a way that the returns attract the least tax possible. This requires the investment manager to be aware of what taxes may affect the investor, such as taxes on any income arising or on any capital gains, how these are calculated and what allowances may be available. An adviser will also need to establish the client's residence and domicile status, as these will impact how any investments are structured.

1.1.6 Other Factors

Other factors, beyond those considered above, may need to be factored into the client's strategy, some of these are considered below.

Protection Against Inflation

Inflation can be one of the biggest obstacles to successful investing because the real value of the income from investments , as well as the future value of capital, is eroded by it.

Inflation has negative implications for holders of bonds and fixed-income instruments. A major driver of bond prices is the prevailing interest rate and expectations of interest rates to come. Yields required by bond investors are a reflection of their interest rate expectations, which in turn will be largely influenced by expectations about inflation. For example, if inflation and interest rates are expected to rise, bond prices will fall to bring the yields up to appropriate levels to reflect the interest rate increases. To remain competitive, equities prices will also suffer.

There are several investments that can be used if an investor is concerned to protect against the effects of inflation. For example, inflation-linked bonds are ones where the coupon and the redemption amount are increased by the amount of inflation over the life of the bond. Over time, successful companies should achieve a rise in both profits and dividend payments to shareholders. This tends to be rewarded by existing shareholders and new investors placing a higher value on the price of the shares. If the annual dividend increases are in excess of the annual inflation rate over a sustained period of time, the share price and dividend receipts may well act as a healthy hedge against inflation.

One final consideration for investors during periods of inflation is to consider making gold, property and other commodities a part of their core portfolio holdings. Gold has traditionally been seen as not only a hedge against inflation but also a protection against the debasement of paper assets, which partly arises from inflation but might also arise from profligate government policies. Property as a real asset tends

to perform well in inflationary conditions. Commodities such as energy products and industrial metals will also tend to have a negative correlation with more mainstream assets and should be relatively good performers during periods of inflation.

Trading and Ongoing Management

The issues an adviser faces when taking over an existing portfolio and reconstructing it are similar to those involved when constructing an entirely new portfolio. A full profiling of the client's needs will be required to determine the need for accessibility and liquidity, income needs, attitude to risk, timescale, tax position and any ethical preferences.

It is a regulatory requirement that they do not engage in 'churning' a client's investments. This is excessive trading or switching investments on behalf of clients often, with a view to generating fee income for the fund manager or associated brokerage firms.

There may also be tax penalties if investments are disposed of. For property, shares and collective investments not sheltered within a tax wrapper, there may be a tax charge on the capital gains.

Impact of Fees and Charges

The fees paid for investment management services will vary widely depending on the kinds of arrangements and vehicles which an investor selects. These could range from investment management fees to performance fees and certain other costs, such as auditors' fees, custody fees, and marketing costs.

There are also charges that are external to an investment fund which the investor may incur. These can be briefly summarised as follows:

- Dealing charges, including commission and stamp duty, are payable to the broker carrying out the transaction.
- The spread is the difference between buying and selling prices, as set by market makers.
- Product wrapper charges, usually administration charges, may be charged by the manager of a wrapper used to hold the investment in the collective fund.
- Charges for advice may be incurred in addition if the investor takes financial advice.
- Any ongoing charges paid to any adviser (although it is likely that these would be covered within the overall fees paid).

1.2 Investment Policy Statement (IPS)

As we have seen, the financial advice process requires the establishment of the objectives, needs and risk profile of the client along with the constraints that the adviser will need to operate under. Best practice is to document these requirements in an investment policy statement (IPS) and execute an investment management agreement.

An IPS can be thought of as a summary of a client's investment objectives that captures their required returns, risk profile and any constraints that the adviser will operate under. It sets these out along with the investment strategy that will be used to achieve the client's goals.

An IPS should be unique to the client but the following table shows some of the essential factors that should be detailed.

Investment Policy Statement	
Investment objectives	• The investment objectives should be set out using a standard wording that has been explained and agreed with the client such as capital growth, wealth preservation or income. • This should spell out the goals of the client that are relevant to managing their investments such as to generate a steady level of growth until retirement. • It should also detail any specific returns that need to be met such as a certain level of after-tax income.
Risk profile	• The client's agreed risk profile should be set out. • It should also expand on their attitudes to risk and their capacity for risk taking. • Views on volatility and drawdown.
Liquidity requirements	• Any requirements for maintaining a certain level of liquidity. • Any need to invest surplus funds or generate funds to top up the client's emergency cash reserve. • Details of known future liabilities that have to be met from the portfolio.
Time horizon	• Factors that will affect the time horizon over which the client is investing such as date of retirement.
Tax position	• Tax position of the client and its impact on investment selection. • Use of any tax wrappers or accounts. • Any considerations that should be applied to establishing capital gains tax.
Investment strategy	• The investment solution to be adopted to meet the client's objectives such as multi-manager funds or discretionary investment management.
Asset allocation	• The IPS should set out all permissible asset classes in which the portfolio may be invested. • A target asset allocation can be set out with the proviso that this may change depending on market factors. • Any constraints on the investment manager's ability to adjust asset allocations.
Constraints	• Any ethical or other constraints that should be followed in construction and management of the investments. • Any restrictions on the inclusion of particular stocks within a portfolio or restrictions on the sale of any holdings.
Benchmark	• The benchmark against which the portfolio performance will be judged.

Investment Policy Statement	
Any other factors	• Any other factors that might influence investment selection and management including items such as inheritances.

The advantage of documenting the investor's objectives, risk profile and constraints in this way is that it gives the investment firm clarity over the needs of the client and the investment mandate which will drive the implementation of the investment strategy.

For the client, it should allow a clear and understandable view of what they have agreed. It should also be explained to them that the IPS is dynamic and allows changes to be made to their investment objectives or constraints in response to changes in their personal circumstances or market conditions.

Diagrammatically, the process of developing, implementing and reviewing an IPS can be seen as follows.

Investment Policy Statement

1.3 Investing for Trusts

Learning Objective

7.1.5 Understand the main considerations that should be taken into account when investing for trusts

A trust is the legal means by which one person gives property to another person to look after on behalf of yet another individual or set of individuals.

We saw in chapter 2 that a trust involves the settlor transferring property to trustees who are legally required to hold that property for others known as the beneficiaries of the trust. A trust, therefore, is essentially a legal vehicle into which assets are transferred and which is then managed by the trustees, who have a responsibility to hold and apply the assets for the benefit of the named beneficiaries.

The central idea behind trust law hinges on separate ownership of property.

- Legal title to assets is vested in the name of the trustee or in the name of another person acting on their behalf. The beneficiaries are described as having beneficial ownership.
- The assets of a trust constitute a separate fund and are not part of the trustee's own estate.
- The trustee has the duty to manage the assets on behalf of the intended beneficiaries in accordance with the terms of the trust and any special duties imposed by law.

Although the laws in countries where trusts are permitted may differ, there are some common aspects that are found which are relevant to the considerations needed when investing for trusts.

1.3.1 Powers of Trustees

A trust deed sets out the terms of the trust and the rights and duties of each of the participants in the trust. In order to carry out their obligations under the trusts, trustees have a range of powers and duties that are conferred by either the trust deed or statute. The following table summarises the main powers of trustees.

Powers of Trustees	
Powers of investment	A duty to invest the trust monies.
Power to appoint nominees and custodians	This allows trustees to take advantage of the safe custody services offered by brokers and custodians, and therefore be able to settle stock market transactions by **book entry** transfer.
Power to appoint investment managers	Trustees have the power to appoint investment managers to manage the investment portfolio on their behalf.
Powers of maintenance	To be able to pay income to minor beneficiaries for their upkeep.

Powers of Trustees	
Powers of advancement	To be able to advance funds from the trust prior to the date specified in the trust deed. This could be used, for example, to pay school fees.
Powers to make dispositions from discretionary trusts	Under a discretionary trust, the trustees have the discretion to appoint funds within the named class of beneficiaries.
Powers of appropriation	Permits trustees to transfer assets to a beneficiary in settlement of their entitlement, rather than having to sell the asset and transfer the cash raised.

In this section, we are primarily concerned with the trustee's powers of investment but the other powers need to be taken into consideration as well as they can affect the investment policy of the trust.

1.3.2 Duty to Invest

Within a trust, there will always be assets or investments of various kinds and so the trustees need powers to invest, otherwise they would be liable for any loss. A body of case law has built up around the world on the duty of trustees to invest the trust assets. Some of their main duties under statute or common law are:

- Exercise due diligence and prudence in exercising a power of investment.
- Demonstrate professional expertise, as professional trustees are held to higher standards.
- Act impartially or fairly between different beneficiaries and between different classes of beneficiary.
- Administer the trust property in the best interests of the present and future beneficiaries.
- Make the trust productive, ie, to invest to earn income and/or produce growth.
- Obtain advice on any matters in which the trustees are not competent to decide for themselves.

A further complication for trustees arises with a life interest trust. With this type of trust, one or more persons (the life tenant) is entitled to the income from the trust during their life or for some certain period and following the cessation of their life interest, the capital of the trust passes to other beneficiaries known as 'remaindermen'. This can present practical issues for the trustees as there can be a conflict between the objectives of the life tenant to maximise income and those of the remaindermen whose objective is to maximise growth of the capital that will pass to them eventually. Trustees are required to maintain a balance between these competing interests which can be challenging.

Either the trust deed or statute will give the trustees power to invest as though they were the beneficial owner of the assets. Normally, this will give them the widest powers of investment although some older trusts may have more restricted powers. As a counterbalance to this wide power, trustees are subject to a fiduciary duty to act in the best interests of the beneficiaries and are subject to a duty of care in how they exercise these powers.

In the US and UK, for example, the trustees may be liable under law if they fail to undertake their duty of care responsibilities correctly and non-compliance with the rules can expose trustees to significant personal liability.

1.3.3 Investment Advice

The rules surrounding a trustee taking investment advice will vary from country to country and may be the result of case law or there may be statutory requirements. Either way, before exercising any power of investment, the trustees should obtain and consider proper advice about the way in which that power should be exercised, having regard to the need for diversification of investments of the trust and the suitability to the trust of the proposed investments.

Trustees have a fiduciary duty when exercising their powers of investment and so trustees are expected to satisfy themselves that the investment adviser is properly qualified. For these purposes, proper advice is advice from a person whom the trustees reasonably believe to be qualified to give it, as evidenced by their ability in and practical experience of financial and other matters relating to the proposed investment.

The advice should be about the way in which the trustees' investment powers should be exercised having regard to the need for diversification and the suitability of the proposed investment for the trust. The trustees require advice about investments in the context of the specific trust and, therefore, the adviser should have specialist experience and knowledge of trust investment management. Their duty is to obtain and consider proper advice, but it does not follow that the trustees must actually follow the advice.

1.3.4 Investment Policy Statement (IPS)

For an adviser it is essential to establish:

- the investment powers available to the trustees
- the nature and purpose of a trust and how this links into its investment objectives
- the range of permissible investments and whether there are any constraints contained in the trust deed
- the tax treatment of the trust, and
- an investment policy statement that sets out the investment objectives, investment strategy and any constraints under which the investment management firm needs to operate.

From a practical point of view, this implies that the trustees must engage in the following process:

- Create and review investment objectives and define the requirements precisely.
- Work with the appointed investment manager to set and review the IPS of the fund. This ensures that the investment manager is fully conversant with the plan requirements.
- Agree the terms of the investment engagement with the investment manager and secure a written agreement. The policy must be written so that all the functions are carried out in the best interests of the trust.

An example of the content of the investment policy statement is shown in the following table:

Investment Policy Statement for Trusts	
Trust details	• This should specify the name of the trust and the trustees. • The type of trust and types of beneficiaries. • The law governing the trust. • Tax residence and status of the trust, the settlor and the beneficiaries.
Investment powers	• The range of powers given to the trustees under the terms of the trust. • Restrictions on the power of investment. • Whether any statutory power of investment is relied on.
Investment objectives	• The investment policy to be followed. • Time horizon of the trust and whether it is short, medium or long term. • Any restrictions on diversification of the trust investments or any ethical or socially responsible investment considerations. • Any asset allocation considerations. • Whether a specific return is targeted. • Rationale for the investment objectives.
Risk profile	• The risk strategy that the trustees wish to see followed. • The level of volatility that is acceptable and the action required if the portfolio falls outside the parameters to assess the continued appropriateness of the strategy. • Base currency of the trust and whether any **currency hedging** is required.
Portfolio performance	• The benchmark to be used and the period over which performance will be judged.
Liquidity requirements	• Any specific liquidity needs that should be met, for example having sufficient funds to pay any tax liability arising on income and gains. • Any plans to exercise powers of advancement or other powers that will require funds to be available.
Other matters	• Investment and performance reporting. • Details of where income from the trust is to be sent to. • Any other tax and legal constraints. • Frequency of review.

An IPS prepared by a professional trustee is likely to contain more precise explanations of the investment policy to be followed and the level of risk that is appropriate.

For example, in the UK the professional body for trustees recommends that trust portfolios are benchmarked against a set of managed portfolio indices that show the performance of a peer group of investment portfolios that are managed on a discretionary basis on behalf of persons acting in a fiduciary capacity.

The indices are produced with the following three risk levels:

- **Low risk** – suitable for risk-averse investors with potentially a shorter-term investment horizon of 3 years or less. Portfolios within this risk profile should exhibit annualised volatility of <6% and should not suffer a drawdown of more than 10%.
- **Medium risk** – suitable for medium risk investors with potentially a medium-term investment horizon of between 3 and 10 years. Portfolios within this risk profile should exhibit annualised volatility between 6% and 10%, and should not suffer a drawdown of more than 20%.
- **Higher risk** – suitable for higher risk investors, with potentially a longer-term investment horizon in excess of 10 years. Portfolios within this risk profile should exhibit annualised volatility of more than 10% and may suffer a drawdown of more than 20%.

From the above example, you should note how the level of risk is defined in terms of volatility and drawdown.

1.3.5 Suitability of Advice

The trustees have a duty to invest the trust assets and to have regard to the need for diversification and suitability of investments to the trust.

The requirement to diversify the trust fund means that, where appropriate, the trustees should use a spread of investments. The degree of diversification that is desirable depends on the size of trust assets.

Suitability relates to considerations such as the size and risk of the investments, and the need to produce an appropriate balance between income and capital growth to meet the needs of the trust. It also includes any relevant ethical considerations as to the kind of investment which is appropriate for the trust. Suitability depends on a range of factors, including:

- nature and terms of the trust
- the investment requirements of the trustees and beneficiaries
- amount available to invest
- investment term
- investment skills and knowledge of the trustees
- underlying taxation of the investment
- tax position and risk profile of the trustees and beneficiaries, and
- administration costs involved.

1.4 Investing for Charities

Learning Objective

7.1.4 Understand the main considerations that should be taken into account when investing for charities

Charities are non-profit organisations set up to further certain charitable purposes and so may invest their funds to further their charitable aims. They can invest in a number of ways in order to achieve their aims and there are usually specific legal duties and decision-making processes that they need to follow.

1.4.1 Structure and Purpose

Charities may be set up using a variety of different legal structures and the investment manager needs to be aware of the different types if they are to advise the charity as they will need to determine who is in a position to authorise them and give instructions.

Charities have a range of structures that can be used from incorporated to unincorporated and the charity will need to select one that meets the charity's needs now and into the future. The most commonly used structures are incorporated companies, trusts and foundations.

A charity will need to apply for registration with a government agency if it is to be formally recognised as a charity and once authorised, it will usually benefit from preferential tax treatment. In England & Wales, this body is known as The Charity Commission, in Scotland, The Scottish Charity Register and in Northern Ireland, The Charity Commission for Northern Ireland. Charities need to meet a test of being for a recognised charitable purpose that is for the public benefit such as advancing health, education or religion or relieving poverty. Some purposes are deliberately disqualified from being charitable, such as engaging in or promoting activities that are unlawful or against public policy.

Wealth managers will need to identify the legal structure, purpose and official registration of the charity (such as a review of the relevant Charities register) as part of the due diligence process for new business – this is important as charities have been found to be used as vehicles for criminal activities, such as Terrorist Financing.

1.4.2 Investment Powers

Many charities have surplus funds not needed to fund their immediate charitable activities; often the trustees invest some or the entire surplus in order to generate extra income to fund future activities.

Directors of charitable corporations and trustees of charitable trusts are responsible for the assets of the charities they manage (for ease of reference, we will refer to these responsible parties as trustees). They have a duty to manage the funds responsibly; this includes investing funds not immediately needed to carry out the charity's purposes. The basic principle governing their decisions about investing their charity's funds is that they must take a prudent approach.

In order to discharge the duty to adopt a prudent approach to the investment of the charity's funds, trustees must:

- know and act within their investment powers
- exercise care and skill when making investment decisions and review investments from time to time
- take advice from someone experienced in investment matters unless they have good reason for not doing so
- follow certain legal requirements if they are going to use an institution to manage the charity's investments on their behalf, and
- know what they can and cannot do if they are going to apply an ethical approach to the charity's investments.

A charity's power to invest will depend on the law and its legal structure. Charities established as a company will have their investment powers set out in its constitutional documents; charitable trusts will derive their investment powers from the trust deed establishing the charity or from statute.

In general terms, some of the factors that trustees should consider are:

- decide on the overall investment policy and objectives for the charity
- agree the balance between risk and return that is right for their charity; this may include a wide range of factors that will impact on return including **environmental, social and governance (ESG)** factors
- consider the suitability of any investments for their charity
- have regard to other factors that will influence the level of return, such as the environmental and social impact of the companies invested in and the quality of their governance
- be aware that some investments may have tax implications for the charity
- invest any permanently endowed funds in a way that helps them to meet their short and long-term aims, and
- decide whether to adopt an ethical, socially responsible or mission-related approach to investment and ensure that it can be justified.

Trustees have overall responsibility for the investment of a charity's funds. If trustees can demonstrate that they have considered the relevant issues, taken advice where appropriate and reached a reasonable decision, they are unlikely to be criticised for their decisions, or for adopting a particular policy.

1.4.3 Investment Policy

If the size of the funds to be invested justifies it, trustees should decide on a formal investment policy for the charity. This will, of course, vary in the level of detail and complexity depending on the size of the charity, and on whether the function of investment has been delegated.

In setting its investment objectives, the trustees should be clear about exactly what the charity is trying to achieve by investing its funds. This will be different for each charity and will depend on its aims, operating model, timescales and resources.

A charity's investment policy will usually include:

- the scope of its investment powers
- the charity's investment objectives
- the charity's attitude to risk
- how much is available for investment, timing of returns and the charity's liquidity needs
- the types of investments it wants to make, this might include ethical considerations
- who can take investment decisions (eg, trustees, an executive, a manager)
- how investments will be managed and benchmarks and targets set by which performance will be judged, and
- reporting requirements for investment managers.

For charities using investment managers, the investment policy must cover:

- the responsibility and remit of the investment manager, and
- the principles that any investment manager must follow when taking investment decisions on behalf of the charity.

1.4.4 Ethical Investment

Trustees of a charity have a duty to maximise financial returns on behalf of their beneficiaries and for some time there was a stream of opinion that this prevented them from investing ethically. Today, charities can invest ethically provided that it does not have a negative effect on its charitable aims and beneficiaries.

A charity can decide to invest ethically, even if the investment might provide a lower rate of return than an alternative investment. Ethical investment means investing in a way that reflects a charity's values and ethos and does not run counter to its aims, however, a charity's trustees must be able to justify why it is in the charity's best interests to invest in this way. An ethical investment approach is permitted where:

- a particular investment conflicts with the aims of the charity
- the charity might lose supporters or beneficiaries if it does not invest ethically, and
- there is no significant financial detriment.

Commonly, it will be the trustees themselves who decide to adopt an ethical investment policy. In doing so, they need to keep in mind the underlying principle that their power of investment has to be used to further the purposes of the trust and should not simply be a reflection of the personal preferences of the trustee.

1.5 Environmental and Social Governance (ESG) Investment

Learning Objective

7.1.2 Be able to analyse the differences between environmental, social, and corporate governance (ESG) and socially responsible investment (SRI) strategies, their origins and purposes, and the circumstances in which it may be appropriate to discuss them

In today's world, many individuals are concerned about the environment, business practices and ethical issues. As a result, many want to reflect their personal values in the investments they make whether that is avoiding the likes of tobacco and oil shares, supporting environmentally conscious companies, or using their funds for impact investing that generate social and environmental impact alongside a financial return or simply avoiding companies they deem unsuitable.

Awareness of environmental and ethical issues has certainly increased in recent years and investors who hold core beliefs may require these to be taken into account within the investment advice and portfolio management provided.

1.5.1 Background to Ethical Investment

Ethical investment describes an approach by investors where they choose which institutions and investments they are prepared to deal with based on their social, environmental and ethical principles.

Ethical investing has a long history and can be traced back to biblical times when ethical investing was mandated in Jewish law, and later to the religious teachings of Islam. Western ethical investing has its roots in religious movements who rejected the slave trade, smuggling and conspicuous consumption. At the beginning of the 1900s, the Methodist Church began investing in the stock market, and consciously avoided companies that were involved in alcohol and gambling. As the twentieth century progressed, more churches, charities and individuals started to use ethical criteria when making their investment choices. Objections to the Vietnam War and the apartheid regime in South Africa widened the range of individuals who considered that their ethical standards should drive who they did business with and what companies they invested in.

In the early years, ethical investing was seen as being on the periphery of mainstream advice, often regarded as the remit of specialist advisers and only for a small client segment with specific requirements in this area. Clients interested in this type of investment were expected to have clear ideas of what they would and would not invest in and to be satisfied with a small range of funds intended to cater for their needs.

Since then, the appetite for responsible investing has grown significantly. A number of factors have combined to change this, but principally these relate to the growing awareness of environmental issues such as climate change, together with an increasing understanding of the importance of social issues. As we saw in chapter 1, shareholders and customers are increasingly looking for companies to operate in a conscious and ethical manner – this new audience want to be responsible investors but also expect to achieve a decent investment return and an absence of consideration of such factors may, in future, impact the ability of the company to continue to generate returns and, in a worst-case scenario, continue to operate.

In the past, different expressions were used interchangeably to denote ethical investment – 'ethical investment', 'environmental investment', 'green investment', 'responsible investment' and 'socially responsible investment' to name but a few. Today, it is simpler to refer to the area as 'sustainable and responsible investment' or, alternatively, 'environmental social and governance' (ESG) within which there are various investment styles to cater for different client needs.

1.5.2 Socially Responsible Investing (SRI) Approaches

SRI refers to any investment that takes environmental, social, ethical or governance issues into account to a significant extent. Examples of these issues are shown in the following table:

SRI Issues	
Environment	Climate change, pollution, biodiversity, environmental management, waste, the use of natural resources – including water, forestry, and mining.
Social	Human rights, labour standards, child labour, equal opportunities, and food supply.
Governance	Board structure, executive remuneration, bonuses, avoidance of bribery and corruption.
Ethical	Values based and ethical concerns, such as – tobacco, armaments, pornography, alcohol, irresponsible marketing or advertising, animal welfare and animal testing (for cosmetics, medical or pharmaceutical purposes).

In practice, these areas can be subdivided into many issues with new issues coming forward all of the time. The key point to recognise here is that funds focus on different issues and fund managers take different views on issues. Some cover a wide range of issues; others focus on a small number. Some research issues in great detail; others are more high level. Many cluster issues together into themes such as 'sustainability' or 'the environment' – as these are areas of increasing importance and interest to both individuals and investors. To complicate matters further, some funds only invest in companies with strong environmental practices, while others avoid companies with poor environmental policies.

It is important, therefore, to understand the detailed approach adopted by a fund before an adviser can match a suitable fund with the client's expressed objectives. The number of issues a fund considers can have a significant impact on where it might invest but how it deals with those issues has a greater impact on its investment strategy. It is, therefore, necessary to understand the fund's investment strategy or approach.

There are a range of approaches that can be taken and some of the main ones are noted in the following table:

SRI Approaches	
Responsible engagement	• This involves using investment ownership to encourage progress on ESG issues where there is a business case for encouraging change. • It involves using dialogue, voting and responsible shareholder activism to encourage positive change and to help reduce ESG risk. • It can be integrated across a fund manager's entire investment portfolio, particular asset types or used with other SRI approaches.
Thematic investment and positive screening strategies	• Both of these involve directing investment towards companies that meet a fund's positive SRI objectives such as themes or business attributes it considers to be positive, beneficial or desirable. • The impact on investment decisions can vary significantly. Some funds focus on a single sector or issue, others are broad based, some invest in a narrow range of industries, and others invest widely in companies that achieve certain standards. • Themed funds such as environmental and sustainability funds generally have positive approaches of this kind – although some also have areas that they avoid.
Avoidance or negative screening	• This involves avoiding investments in companies that are involved in activities that a fund manager has defined as 'unacceptable' or 'unethical'. • It is a major feature of ethically-screened funds. • The impact on investment strategy varies – some funds exclude companies with only minor involvement in excluded activities whereas others are less strict and balance the positive benefits of companies against their negative attributes.

The way in which issues and approaches are combined varies greatly and there is now a wide range of options available to investors. They can, however, be grouped into a number of SRI styles as shown in the following table:

SRI Styles	
Responsible engagement	These are regular funds which employ a range of dialogue- and voting-based strategies to encourage better business practices across both institutional and retail investment assets.
Sustainability	These funds focus on the sustainability agenda when considering where to invest. Strategies vary from focus on specific issues to best in sector.
Balanced ethical	These are ethically screened funds that balance the positive and negative aspects of company behaviour across a range of ethical, social and environmental issues. They are likely to combine a number of SRI approaches.

SRI Styles	
Environmentally-themed	These funds integrate environmental opportunities and risks into their investment decisions by focusing on specific themes.
Negative ethical	The primary approach of these funds is the strict avoidance of a range of activities that do not meet more traditional, ethical or values-based standards. These funds tend to explicitly avoid more companies than any other approach.
Faith-based	There are an emerging but very limited group of funds that invest in line with a specific set of religious values. This style has similarities with the more traditional negative ethical options as their core focus is avoidance.
Clean technology	These funds specialise in market-leading clean technology and environmental solutions companies. These are thematic funds and do not have ethical-screening criteria.

While there are areas of crossover between many of the SRI styles, these reflect the most common fund strategies and also the most common client aims and are a useful starting point for discussion with a client.

Greenwashing

One area that should be considered when reviewing SRI products is that of greenwashing – that is, the process of conveying a false impression or providing misleading information about how a company's products are environmentally sound. Greenwashing is considered an unsubstantiated claim to deceive consumers and investors into believing that a company's products are environmentally friendly.

1.5.3 Assessing a Client's Ethical Considerations

As part of the fact-find process, a client's ethical considerations will be highlighted and it is important to probe further and explore what they require in more detail. An adviser should aim to understand:

- The client's areas of concern which will indicate the main investment themes that may be suitable or those that need to be avoided.
- The level of concern and degree of commitment that the client has to the issues which will indicate the proportion of funds that may be allocated to this area and the extent to which such factors should be considered in the context of pure investment issues of risk and return.

It is important, therefore, for advisers to have a basic high-level understanding of key social, environmental and ethical issues likely to be of concern to some clients and be able to provide guidance to clients to identify potential solutions.

Having identified the key social, environmental and ethical issues that are of concern to a client, the next step is to select an SRI investment that will best suit the client's needs and wishes and which are consistent with their attitude to risk.

1.5.4 Investment Performance

The risk and return mix of an SRI fund will differ depending upon its approach and the investment strategy it adopts.

A common misconception with this type of investing is that it will involve accepting lower investment returns compared to mainstream investments. Research has shown that ethical investing need not necessarily involve accepting lower performance. Several of the studies undertaken over the last decade or so have indicated that investing according to ethical criteria may make little difference to overall financial performance, depending on the ethical policy applied.

It is important to note, however, that it is not performance that is the most important factor here but whether the portfolio is suitable for the needs of the client. Hence, with regards to performance, the investment manager should discuss with the client an ethically constructed benchmark to be judged against.

A conventional fund and an ethical fund may both be compared to the same index, such as the FTSE All Share Index. A conventional fund has many companies to choose from that satisfy its investment objectives, whereas an ethical fund can be restricted somewhat by negative screening. As a result, some ethical funds may underperform the benchmark against which they have been measured. This has led to the development of a number of ethical indices. Some believe that these indices represent a more appropriate benchmark for an ethical fund, while others believe ethical funds should continue to be compared with mainstream indices to dispel ideas of underperformance.

There is a range of ethical indices that can be used to track performance:

- FTSE4Good indices were launched in 2001 with the help of the EIRIS Foundation. They have been designed to measure the performance of companies that meet globally recognised corporate responsibility standards, and to facilitate investment in those companies. The series includes four tradable and five benchmark indices, representing Global, European, US, Japan and UK markets.
- Dow Jones Sustainability Indices track the financial performance of the leading sustainability driven companies worldwide and provide fund managers with reliable and objective benchmarks to manage sustainability portfolios.
- The MSCI KLD 400 Social Index is a capitalisation weighted index of 400 US securities that provides exposure to companies with outstanding Environmental, Social and Governance (ESG) ratings and excludes companies whose products have negative social or environmental impacts. The parent index is MSCI USA IMI, an equity index of large, mid and small cap companies. The index is designed for investors seeking a diversified benchmark comprised of companies with strong sustainability profiles while avoiding companies incompatible with values screens.
- The MSCI Low Carbon Indexes are intended to help identify potential risks associated with the transition to a low carbon economy while representing the performance of the broad equity market. Launched in 2014 they are the first index series designed to address two dimensions of carbon exposure: carbon emissions and fossil fuel reserves. MSCI Low Carbon Indexes can be split into two index suites:
    - The MSCI Global Low Carbon Target Indexes re-weight stocks based on their carbon exposure in the form of carbon emissions and fossil fuel reserves. The indexes are designed to achieve maximum carbon exposure reduction and achieve 0.5% (50 basis points) ex ante tracking error target while minimising the carbon exposure relative to their parent indexes.

- The MSCI Global Low Carbon Leader Indexes aim to achieve at least 50% reduction in the carbon footprint of the parent index by excluding companies with the highest carbon emissions intensity and the largest owners of carbon reserves (per dollar of market capitalisation). They also aim to minimise the tracking error relative to their parent index.

1.6 Islamic Investment and other Faith Values

Learning Objective

7.1.3 Understand the main considerations for investing in accordance with Shariah law and other faith values

1.6.1 Islamic Finance

Islamic investments are a distinct form of socially responsible investment.

Islamic finance refers to a system of banking or banking activity that is consistent with the principles of Islamic law (Shariah) and its practical application through the development of Islamic economics.

Shariah prohibits the payment of fees for the renting of money (usury or *riba*) for specific terms, as well as investing in businesses that provide goods or services considered contrary to its principles. For example, this includes investing in businesses that deal with alcohol, pork, gambling, weapons, tobacco, media, 'conventional' financial institutions, pornography and anything else which it deems *haraam* (unlawful).

Shariah law also requires that not only the underlying investments but also the contractual terms agreed between the investors and the investment firm conform to Islamic principles. This concept covers particular types of uncertainty or contingency in contracts such as short selling, futures, derivatives and conventional insurance.

The Islamic financial model works on the basis of risk sharing. The customer and the firm share the risk of any investment on agreed terms and divide any profits between them. Shariah-compliant investments must all be certified by experts, generally through a panel or board comprised of respected Shariah scholars who are highly qualified to issue *fatwas* (religious rulings) on financial transactions.

This panel of Shariah experts ensures full compliance of the investments and transactions with Islamic principles. All Islamic investment fund companies have appointed Shariah boards which not only provide approvals on individual investments on a regular basis but also conduct a Shariah audit annually to ensure all activities of the investment funds are fully compliant.

The most common forms of Shariah-compliant investment funds are equity funds, real asset / estate funds and money market funds. These investment funds employ Islamic contracts which ensure that the terms and rights of all parties are safeguarded in conformity with Islamic principles:

- ***Musharakah*** – a partnership where profits are shared according to a pre-agreed ratio while losses are shared in proportion to the capital investment of each partner. This equity financing arrangement is widely regarded as the purest form of Islamic financing.
- ***Mudarabah*** – an investment partnership under which the investor provides capital to the investment manager in order to undertake a business or an investment activity. While profits are shared on a pre-agreed ratio, losses are borne only by the investor.
- ***Ijarah*** – an Islamic lease agreement. Instead of lending money and earning interest, *ijarah* allows the investor to earn profits by charging rentals on the asset leased to the user.
- ***Murabaha*** – involves the purchase and resale of an asset. Instead of lending money, the investor purchases the desired asset from a third party and resells it at a predetermined higher price to the user. By paying this higher price over instalments, the user of the asset has effectively obtained credit without paying interest.

Income generated by a Shariah-compliant fund must also be 'purified' as it is often unavoidable that some of the income generated by the underlying companies in which a Shariah fund invests will include some form of non-halal income such as interest or dividends from subsidiaries that are non-compliant. One way that purification is achieved in the funds industry is where the fund administrators calculate the non-compliant portion of the income received and donate this to a charity.

In 1999, the Dow Jones Islamic Market Index was formed in Bahrain, created for investors seeking investments using Islamic finance, with screening undertaken by an independent Shariah Supervisory Board.

1.6.2 Faith-Based Investing

A branch of SRI, faith-based investing, has been around for a long time.

In the 1800s, the Quakers, who were anti-slavery and anti-war, avoided investing in weapons production. Today, faith-based investing is often a combination of SRI plus the screening out of several other things germane to a particular religion.

Each group decides both what their financial goals are and their strategies to achieve those goals. They also look at their social and religious teachings and that leads them to be willing to hold certain things in their portfolios.

2. Investment Selection

An investment strategy will set out the client's investment objectives and any constraints under which the investment manager must operate. For example, the client may have an investment objective of growth and the strategy to achieve this may be through a portfolio constructed of a mixture of direct bonds and equities supported by investment funds for international and sector exposure. The investment policy statement will, therefore, set out the client's objectives and what investment solutions will be appropriate, and the next stage is to design an asset allocation that is suitable for the client's objectives and risk profile.

Firstly, let us look at how investment strategy has evolved to where we are today:

- Prior to the publication of 'Portfolio Selection' by Harry Markowitz in 1952 ushering in the era of modern portfolio theory (MPT), portfolios were generally undiversified.
- Following the general acceptance of MPT, diversification settled on the 60:40 portfolio with a mix of 60% equities and 40% bonds.
- Subsequently, financial innovation in the 1980s and 90s led to the creation of new markets for mortgage-backed bonds, high yield bonds and leveraged loans which saw investors broaden their horizons to other asset classes.
- By the turn of the millennium, investors were diversified across domestic and international equities, value and growth stocks, large-cap and small-cap stocks and developed and emerging markets as well as government, mortgage and corporate bonds.
- Following this, investors introduced exposure to alternative assets which initially were absolute return (or hedge funds); **real assets** (or property and natural resources); and private equity.

Two trends have reshaped investment strategy over the decade since the financial crisis:

1. Investors have gained a better understanding of a broader range of asset classes and strategies. This has allowed them to incorporate new asset classes and strategies in their portfolios.
2. Advances in quantitative techniques have increased the toolkit for both risk management and return generation.

2.1 Selecting an Asset Allocation Strategy

Learning Objective

7.1.6 Be able to apply an appropriate investment allocation strategy that best meets the following criteria: distinguishing and prioritising the client's financial needs and wants; client's financial objectives and priorities; client's risk tolerance; appropriate fees and charges; portfolio turnover ratio (PTR); client suitability requirements; adequate diversification and correlation benefits; additional risk, timing and liquidity factors where asset accumulation and decumulation are relevant features

Many different approaches can be used to determine the actual asset allocation weightings to be used. These may use qualitative judgements on economic and market outlook, sector, individual stock, political or other considerations. Alternatively, quantitative methods may be used to determine allocations, based on considerations such as minimising risk, maximising risk-adjusted returns, asset class correlations, identification of undervalued asset classes and so forth.

Integral to these approaches is creating a framework to decide what mix of asset classes will be put together based on a client's investment objectives and risk profile that will give a better chance of meeting their goals within a level of risk that they are comfortable with.

2.1.1 Role of Asset Allocation in Portfolio Construction

During the initial portfolio construction process, the adviser will need to consider which asset classes to include and which to ignore and the weightings accorded to each of the asset classes. The latter will be largely based on the need to fit with the objectives, constraints and risk profile of the investor.

The key objective for the adviser will be to conduct a thorough inquiry into the risk profile and requirements of the investor. This may often require an extended interview with the investor and possibly further discussions to finalise the precise details of a long-term investment objective. The aim of this exercise is to see which asset classes need to be selected in order to achieve the desired levels of return, commensurate with the investor's tolerance for risk. There may also be unique circumstances, constraints or needs to be factored in. The primary and secondary objectives can finally narrow down the list of investment possibilities to enable the manager to come to an appropriate asset selection decision.

The results of this exercise should be to achieve adequate levels of diversification in the portfolio. By diversifying and finding an appropriate combination of assets, the investor can, to some extent, immunise a portfolio against the possibility of cyclical underperformance. Often underperformance is likely to be confined to particular asset classes, and, since other asset classes may be counter-cyclical, the impact of an economic downturn will be lessened by the degree of diversification and the skills used in the asset allocation process.

2.1.2 Asset Class Returns

Depending on factors such as changes in the overall economy and even investment fashions, the best and worst performing asset and sub-asset classes continually change.

This can be readily seen by looking at charts that depict asset class returns over a number of years. These can be quite confusing to view when they are first encountered, so a simplified example is shown below. This is based on UK asset class returns since 2000 and to allow a clearer view of the data is restricted to just four asset classes – cash, bonds, property and equities.

UK Asset Class Returns 2000–2023

	UK Stock Market	UK Government Bonds	UK Bank Savings	UK Housing
2000	-5.90%	10.30%	5.80%	13.50%
2001	-13.30%	3.40%	4.80%	4.60%
2002	-22.70%	10.50%	3.90%	28.40%
2003	20.90%	1.20%	3.60%	8.30%
2004	12.80%	6.30%	4.40%	10.70%
2005	22.00%	8.30%	4.60%	6.30%
2006	16.80%	-1.10%	4.70%	10.40%
2007	5.30%	6.20%	5.50%	7.00%
2008	-29.90%	18.20%	4.30%	-14.90%

2009	30.10%	-5.10%	0.50%	4.40%
2010	14.50%	9.20%	0.50%	0.40%
2011	-3.50%	16.20%	0.50%	-1.00%
2012	12.30%	3.30%	0.30%	1.10%
2013	20.80%	-8.40%	0.30%	5.40%
2014	1.20%	14.60%	0.40%	7.70%
2015	1.00%	-0.10%	0.50%	6.90%
2016	16.80%	8.70%	0.40%	5.20%
2017	13.10%	1.70%	0.20%	4.60%
2018	-9.50%	0.40%	0.60%	2.00%
2019	19.20%	5.50%	0.70%	0.90%
2020	-9.80%	7.10%	0.20%	7.00%
2021	18.30%	-7.20%	0.10%	8.10%
2022	0.30%	-21.30%	1.70%	7.80%
2023	7.90%	4.80%	4.90%	-0.20%

Source: Bullion Vault

What you should pick out from this picture is how the best and worst performing asset class shifts on a year-by-year basis. This is for just the four main asset classes and, if the sub-asset classes were included, the best and worst performing asset class would indeed look random.

This demonstrates why it is necessary to diversify across asset classes. Since it is impossible to forecast which asset class will perform best each year, it makes sense to hold a spread of assets to diversify against the underperformance of a single asset class.

2.1.3 Quantitative and Qualitative Approaches

Quantitative or qualitative approaches may be taken to determine an appropriate asset allocation.

Qualitative Approaches

A qualitative approach requires an investment manager to use their knowledge of markets and economics to determine suitable asset allocations. They can consider the implications of long-term market changes particularly when they first occur, so that they are less dependent on available market data to determine a suitable response to novel conditions. They may also be able to spot new trends that others have missed or anticipate when markets are over-priced and choose to move to a more defensive position.

Decisions are often made by investment committees, at which investment managers and analysts will present their arguments for and against different economic and market outcomes, with debate to reach a consensus view. A danger is that the decisions of such committees may be somewhat subjective and not capable of repeatability in a controlled way. This means that regardless of the quality of asset allocation decisions made by a particular committee, it may be difficult to know what to do to ensure

continuation of good asset allocation decisions resulting in outperformance, or how to turn around a track record of poor decisions resulting in underperformance.

Even selection of the most skilled individuals to participate in an investment committee may not guarantee good allocation decisions, since subjective judgement is required in the selection of candidates, and talented individuals may be unable to deliver if the group dynamic of the committee proves unhelpful.

Although qualitative approaches offer a disciplined basis to the asset allocation process, there are advisers who prefer an experience-based qualitative method. Some popular experience-based approaches are:

- **A 60/40 stock/bond allocation** – this may be a good starting point for an average investor. This allocation pre-dates MPT and has been suggested to be neutral for an average investor under normal market conditions. The 60% equity allocation provides the long-term growth to the fund, while the 40% bond weight in the bond portfolio provides the risk reduction and income contribution.
- **Increase bond weighting as risk aversion increases** – as conservative investors value low volatility. Hence, increasing the allocation to bonds should lead to lower portfolio risks.
- **Increase allocation to stocks as the investment time period gets longer** – this is based on an idea called time diversification, which has shown that, over a longer time period stocks are less risky. The rule of thumb suggested by some practitioners in the US market is that the allocation to equities could use the following simple formula: % equity allocation = 100 – age of the investor. This view is based on the works of Malkiel (2004), who put forward a life cycle investment guide to asset allocation. For example, as a starting point for the investment allocation decision for a 30-year-old investor, the adviser may start with a 70/30 equity/bond mix. A 60-year-old investor on the other hand will be given a 40/60 equity/bond mix.

Quantitative Approaches

Quantitative approaches tend to be associated with computer algorithms that analyse large amounts of numerical data to come up with optimal asset allocation decisions. An example is the stochastic modelling software used by many investment management firms that uses Monte-Carlo simulation to derive optimal portfolios.

One quantitative approach is portfolio optimisation or mean-variance optimisation originally developed by Harry Markowitz. This takes estimates of anticipated asset returns, risks and inter-asset correlations to mathematically solve for asset combinations that offer a superior outcome. In its basic form, this suffers from a number of challenges. For example, the future returns and correlations of each asset considered are required and as these are unknown, historical data is often used. Also, when portfolios are rebalanced periodically the asset allocation can change significantly as the model is very sensitive to estimates of expected returns leading to high levels of trading and trading costs.

Despite the difficulties with optimisation in its basic form, variants of it have found favour with many investment managers and sophisticated techniques have been developed to address a number of its weaknesses. As a result, more advanced optimisation tools may arrive at more stable asset allocations or give an indication of a range of likely outcomes, making them valuable tools.

Within a broad optimisation framework, asset allocation models may be designed to target a number of different outcomes, for example:

- minimise volatility or drawdown
- maximise the Sharpe ratio or Information ratio, and
- maximise return subject to certain parameters.

Since there is much variation in the parameters that are used by quantitative models, it is unlikely that any two models would produce exactly the same asset allocation and take the same investment decisions.

Choosing an Approach

Wealth managers will often use a combination of methods to help ensure they combine the strengths of each approach.

- For example, while quantitative methods may be objective and potentially less prone to the sorts of inbuilt human biases considered in behavioural finance, they can be over-reliant on historical data and in some cases give unstable asset allocations that can change by large amounts in short periods of time, resulting in overtrading.
- On the other hand, qualitative methods require the all-too-human judgement of the manager which may make them more subjective, but at the same time, an investment manager can attempt to anticipate developments in market and economic circumstances that may otherwise prove a surprise to less experienced market participants.

2.1.4 Selecting an Appropriate Investment Allocation Strategy

Wealth management firms typically use a top-down investing approach to portfolio construction. This involves using a framework to decide what types of investments are needed and only then choosing individual securities or funds. Planning a portfolio based on risk tolerance and investment objectives gives a better chance of meeting the client's goals within a level of risk they are comfortable with.

At a very general and simplified level, the top-down approach to portfolio construction generally goes through four broad stages:

1. Deciding how to allocate the client's money between the different asset classes.
2. Choosing which sectors or sub-asset class to invest in within each asset class.
3. Deciding whether exposure to those sectors will be achieved through an actively managed portfolio or passive funds.
4. Evaluating individual securities and funds within each sector.

Selecting the appropriate investment strategy for a client is dependent on a series of factors. The overall asset allocation is developed as above and is then fine-tuned to fit various client types and in particular different risk levels. Factors influencing the variations on the overall asset allocation are:

- the client's objectives and risk tolerance
- size of funds invested
- achieving adequate diversification and correlation benefits
- costs in terms of fees, charges and portfolio turnover, and
- timing and liquidity factors where asset accumulation and decumulation are relevant features.

Once the asset allocation and sub-asset class weightings are decided, a decision whether to use active management or passive management will be required. Implementation of the necessary portfolio exposures can then be achieved using directly held equities, bonds and money market instruments, or else by selecting funds that give the desired asset exposures. Where funds are used, due diligence is then needed to ensure that the funds selected do indeed offer the appropriate asset exposures, assessment of the performance, management processes and other aspects to ensure they are suitable for the client concerned.

Strategic asset allocation, as outlined above, represents what is sometimes referred to as the core holdings that a fund should operate with to satisfy its objectives and constraints. The strategic asset allocation is based on long-run estimates of capital market conditions and is often, either explicitly or implicitly, based on the assumptions of the efficient market hypothesis (EMH) that there are no real benefits to be gained from attempting to time the market and to engage in a proactive approach to asset selection.

Many clients and fund managers, as is evident from their manner of operation, focus on shorter-term and tactical decision-making with respect to portfolio construction, and appear to subscribe to the weaker forms of the EMH. There are a variety of techniques employed by many fund managers which reveal that, even though the fund may have a commitment to a core strategy and core holdings, there are a number of initiatives of a more opportunistic nature that can be exploited using tactical or dynamic asset allocation.

2.2 Cash Accounts and Money Market Funds

Learning Objective

7.2.3 Be able to analyse and select investments suitable for a particular portfolio strategy: direct holdings, indirect holdings and combinations; role of derivatives; impact on client objectives and priorities; diversification; cash, deposit accounts and money market funds

Selecting suitable cash-based investments to meet a client's objectives should be undertaken using a structured approach that looks at:

- the short-term objectives that cash-based accounts must satisfy based on a combination of maintaining necessary liquidity, preserving capital and maximising the potential return
- cash flow forecasts to identify a client's funding needs or the management of surplus funds
- segmenting cash investments into categories that link to short-, medium- and long-term goals, and
- defining what constitutes potential investments for each cash segment.

2.2.1 Cash Objectives

This first step is defining what role the cash investments recommended to a client will undertake and involves defining the parameters that will be used to determine what constitute acceptable investments including:

- the level of risk that it is appropriate to take with a client's cash investments

- the level of return required
- the range of investments that can be considered, and
- any relevant constraints such as tax or other considerations.

The objectives should clarify what a client's cash investments are intended to achieve and the importance that will be attached to capital preservation, sufficient liquidity and return. Expressed clearly, it will provide a high-level framework against which competing solutions can be judged.

2.2.2 Cash Flow Forecasts

The discipline of cash segmentation is an especially useful tool to bring structure to selecting suitable cash investments. Cash segmentation begins with detailed cash forecasts.

Sound financial management means knowing the cash flow of your client, forecasting their cash needs, planning a funding strategy so that they have cash when they need it and having financial records that track inflows and outflows. Even wealthy individuals can have cash flow problems and it is often due to poor financial planning.

Cash flow projections should be prepared for short-term and long-term planning purposes so as to differentiate between living expenses and anticipated cash needs or surpluses. As they are used for different purposes, they are usually prepared separately.

The short-term cash flow projection will be used to determine the expected income and expenditure of the client. The results of this will identify whether the client has an expected deficiency that needs to be funded out of investment income or a surplus that can be directed into longer-term investments. A suggested format for capturing this is shown as follows:

Cash Flow Projections													
	J	F	M	A	M	J	J	A	S	O	N	D	Total
Income													
Fixed expenses													
Controllable expenses													
Net income													

The long-term cash projections will identify surpluses and deficits, the amount, the timing and the reason. Again, a suggested format that could be used is shown as follows:

Long-Term Cash Flow Projections					
	1st Year	2nd Year	3rd Year	4th Year	5th Year
Expected cash receipts					
Expected cash outgoings					
Surplus or deficiency					

This projection will allow a plan to be developed for how to use surpluses and how to fund efficiently any deficits. For example, a deficit in the third year could be funded by surpluses in years 1 and 2 which could be invested in short-term deposits. Otherwise, there is a risk that the client might commit early surpluses to long-term investments that are not readily realisable without incurring losses.

For some clients, the projections may show a consistent series of surpluses such as for professionals and business owners until they can retire. Alternatively, they may show deficits until receipt of an anticipated amount or where a client has retired and is now drawing on accumulated savings.

The role of the investment manager is to determine whether there will be surpluses or deficits, whether assets are sufficient to carry any short-term deficits and then plan to manage long-term surpluses or cash funding needs. The adviser can then look at how to present this to the client in a way that makes the projection clear to understand by using graphs or other presentation methods.

Making projections can be challenging. It is worth remembering that sound financial projections will tell your client a lot about your ability and your experience. Some factors to bear in mind when preparing these are:

- Do not try to be overly creative. Balance simplicity with comprehensiveness.
- Be conservative when projecting inflows.
- Account for seasonal or periodic fluctuations in income and expenditure.
- Make allowances for inflation.
- Be aware of the economic cycle and its impact on income, expenditure and attitudes.
- Consider using graphs to effectively illustrate movements.

It is essential to recognise that these are projections and as such, need to be regularly revisited, assessed for accuracy and usefulness and the assumptions updated for use in subsequent periods.

2.2.3 Cash Segmentation

The purpose of cash segmentation is to enable the most appropriate investment solution to be chosen for each segment. Typical cash segments are an operating fund, a reserve fund and a strategic cash fund that are differentiated by their time horizon and purpose. The following table shows suggested time horizons for the cash segments and their respective purposes.

Cash Segments

Segment	Time Horizon	Purpose
Operating fund	Short term (up to six months)	• Immediate cash reserve to meet cash requirements up to six months ahead. • Based on estimates of expected inflows and outflows. • Enables surplus funds to be invested.
Reserve fund	Medium term (six months to two years)	• Fund for known cash needs. • Based on anticipated inflows and outflows. • Emergency reserve that can be used to top up the operating fund. • Fund replenished where necessary from longer term investments.
Strategic cash fund	Long term (two to five years)	• Enables cash not immediately needed to be invested for longer term to capture higher return. • Provides funding for potential future cash needs. • Surplus funds can be reinvested for later years or redirected to other investments.

Among the considerations for cash segmentation is the purpose of the cash, its time horizon, and liquidity requirements. Liquidity will determine how quickly the cash needs to be accessed.

Separately, it could also factor in tax issues. This can then be shown in tabular form to provide a clear picture of the cash strategy. A suggested strategy might be:

Operating fund	Purpose: Time horizon: Liquidity:	• Day-to-day expenditure. • Up to six months. • Daily or weekly/monthly notice.
Reserve fund	Purpose: Time horizon: Liquidity:	• Short-term cash reserve. • Six months to two years. • Monthly or three/six-month notice.
Strategic cash fund	Purpose: Time horizon: Liquidity:	• Longer term cash reserve. • Two to five years. • Fixed repayment periods.

For each segment, the acceptable level of risk can then be determined which will assist in identifying potential solutions. For example, the acceptable level or risk for the solutions used for the operating fund may be conservative indicating that only bank deposits are suitable while for the strategic cash fund, more risk may be acceptable potentially allowing a use of money market funds or short-term bonds.

The cash segments should not be treated as a fixed or static strategy and instead, the adviser should consider how and how often to review and rebalance the segments.

2.2.4 Selecting Cash Investments

Having established cash flow projections and segments that are reflective of the client's circumstances and needs, the next step is to identify suitable homes for the client's cash.

There is an often bewildering choice of cash accounts and money market funds to select from. Investment managers and advisers, therefore, need a systematic approach that can be adopted in selecting appropriate accounts and funds to meet the client's objectives and attitude to risk.

Corporate treasurers have a methodology that can usefully be adapted to aid with the necessary filtering security, liquidity and yield. In simple terms, it says that you should first assess the provider for security and only those that pass that test are then assessed on liquidity or the ability to readily realise the funds. Only the providers that pass those filters should then be considered, and it is only at this last stage that yield should be considered.

This approach provides a basis for the security of the cash deposits and although it may not withstand a systemic failure, it can prevent the failure of one provider proving overly damaging and catastrophic to the overall liquidity of the client's portfolio.

Bank Accounts

Banks are an obvious choice of a home for a client's cash reserves. Banks offer a range of accounts from current or checking accounts to time deposits and money market accounts.

Types of Accounts	
Current accounts	• These are typically used for everyday banking needs, such as receiving payments, undertaking transactions and allow the holder to get at the money as and when needed.
Instant access accounts	• Instant access accounts or call deposits allow the holders to get at their money when they want, but may limit the number of times it can be accessed within a given period.
Notice accounts	• Notice accounts – also known as time deposits or **certificates of deposit (CDs)** – require that the holder gives a certain period of notice before withdrawing all or part of the deposit.

Types of Accounts	
Fixed-term accounts	• The deposits are tied up for a set period, which can range from months to years. These earn a set rate of interest over their entire life which may be fixed.
Money market accounts	• These are accounts where the rate of interest earned is linked to the returns available in the money markets with call accounts, notice accounts and fixed-term accounts available.

Their main attraction is their ease of use, availability and liquidity while their main drawback is the low return that can be earned on the funds.

Security should be the primary consideration as such deposits will probably represent the operating and reserve funds needed by a client and so risks should not be taken with these even if the client has an adventurous attitude to risk for the remainder of their investments. Assessing the risks to capital requires the adviser to assess the risk of default of the deposit taker. This requires an assessment of the creditworthiness of the bank or building society to be made and the extent to which any compensation scheme will protect the deposits made and if so, the deposit limits under such a scheme. In the UK, this would be the Financial Services Compensation Scheme (FSCS). The financial crisis showed these to be real risks and so the adviser should consider setting a limit on the amount placed with any one institution and then seek a second level of protection by diversifying cash investments among providers.

Liquidity refers to the ease or otherwise in which cash funds can be readily realised. The types of accounts that are chosen will be driven by the cash needs of the client derived from the cash flow projections. Immediate cash needs will need a combination of current and instant access accounts as, by definition, ready access is required and tying the funds up would be inappropriate. Short-term reserves, however, can more realistically be tied up and term or notice accounts selected that tie in with projected cash flows.

For term and notice accounts, the adviser should establish whether these funds can be accessed immediately on payment of a penalty. Where such accounts are less liquid, then the adviser should also take into account the need for diversification of risk and ensure appropriate limits are designed and applied to minimise the concentration of risk with one provider and for any undue exposure to maturity dates.

Yield should come last in priorities; the results of the bank failures seen during the great financial crisis emphasise this point. The balance of instant access and term funds will be driven by the client's circumstances, their needs and the expected cash flows. It should balance the need for security and liquidity against the returns which can be expected.

Money Market Funds

Money market instruments include a group of short-term credit instruments and futures market instruments as well as central bank operations in the money market. The main types of money market instruments are:

- cash instruments such as deposits and repos
- treasury bills
- certificates of deposit
- **commercial paper (CP)**, and
- bankers' acceptances.

The money markets are the wholesale or institutional markets for cash. Money market instruments are generally characterised by a high degree of safety of principal and are most commonly issued in units of $1 million or more with maturities ranging from one day to one year. As a result, private investors face difficulties in accessing these instruments directly other than through money market funds.

Money market funds are mutual funds that invest in short-term money market instruments and so are among the lowest volatility type of investment fund. By pooling investors' funds, they are able to offer investors access to money market instruments because of their low investment minimums.

The short maturity date of money market instruments and the high issuer quality means that money market instruments carry low investment risk and the characteristics of money market instruments and the size of the players in the market make for high levels of liquidity. The short maturity date of money market instruments and the high issuer quality means that money market instruments carry low investment risk and, as a result, they usually offer very low returns which are reflected in the yield on money market funds.

There is a range of money market funds available, and they can offer some advantages over bank accounts as noted below:

- There is the obvious advantage that the pooling of funds with other investors gives the investor access to assets they would not otherwise be able to invest in.
- Money market funds diversify risk across a range of highly rated issuers and so reduce the concentration risk of holding funds with one bank.
- Credit risk is managed by diversification and many funds have AAA ratings.
- Assets are held by an independent custodian and so are protected in the event of the failure of the fund manager.

Despite these advantages, they are still exposed to credit risk, interest rate risk and liquidity risk which needs to be carefully analysed.

Credit Risk	• Money market funds may invest in all types of money market securities, from deposits, and government securities to short-dated corporate debt with varying levels of credit risk. • Understanding the credit quality of the underlying portfolio is important and most funds provide a breakdown of the credit quality of the underlying securities in the fund. • All securities held must meet minimum credit-rating standards and the portfolio as a whole must meet diversification standards with no single security having a maturity date greater than 397 days. • Credit risk is measured using the weighted average life (WAL) of the portfolio holdings; the higher the WAL, the greater the risk.
Interest Rate Risk	• As money market funds hold fixed-income securities, they are susceptible to movements in interest rates. • Interest rate risk is measured using the weighted average maturity (WAM) of the underlying portfolio. • The WAM provides a measure of the susceptibility of the fund to interest rate risk; the higher the WAM, the greater the impact which a change in interest rates will have on the fund.
Liquidity Risk	• A money market fund seeks to provide daily liquidity. In normal markets, the fund can liquidate or sell securities, but in a stressed market, the fund may need to rely on the regular maturing of the securities in the portfolio. • Liquidity risk can be assessed by looking at the amount of overnight and one-week securities held by a fund. The greater the proportion in these short-dated securities, the more liquid the fund. • A minimum percentage of the fund should be held in overnight deposits or securities and in securities maturing within one week to meet fund redemptions.

As an example, in the US and Europe short-term money market funds should:

- have a WAL of 120 days or less,
- have a WAM of 60 days or less, and
- hold 10% in securities that mature within one day and at least 30% in ones that mature within one week.

Other types of money market fund may have lesser standards that enable them to invest in securities that generate higher returns. These requirements reduce market risk from significant interest rate volatility and enable the provision of same-day or next-day liquidity. You should also be able to see that these requirements mean that the portfolios of money market funds have to meet very conservative standards.

During a period of global low interest rates, the returns on money market funds are meagre at best. On the face of it, therefore, there is little reason to invest in a money market fund yet they attract significant inflow.

- They attract interest is as a home for savings during periods of market turbulence or when the outlook is uncertain.
- Credit risk can be reduced compared to bank accounts as they provide diversification not only across money market instruments but also across multiple banks.
- They provide immediate liquidity so that funds can be readily accessed without the notice periods required with some bank accounts.

Sometimes, the title of a money market fund will provide an indication of the type of money market instruments that it invests in, eg, a Treasury fund in the US. Most of the time, however, it will be necessary to undertake investigations to determine the types of securities that the fund invests in and the credit, interest rate and liquidity risks it presents.

- In the recent low interest environment returns were low, however, given their link to prevailing interest rates. For example, some well-respected UK money market funds produced a one-year total return in 2019 of under 0.70% with others producing far less. With inflation at around 1.5% at the same time, the return was not only meagre but failed to produce a positive return after inflation.

Factors to Consider when Assessing Money Market Funds

To assess whether a money market fund is suitable for inclusion in a portfolio, the adviser needs to consider a number of issues including:

- The relative rate of return compared to a money market account or other cash deposit.
- The charges that will be incurred and their effect on returns.
- Speed of access to the funds on withdrawal.
- The underlying assets that comprise the money market fund.
- How the creditworthiness of the underlying assets is assessed.
- The rate of return compared to other money market funds and how that is being generated.
- The experience of the fund management team.

Structured Deposits

Structured deposits are a type of structured product, and the term is usually used to refer to capital protected products.

Structured products are packaged investment solutions where the return depends on the performance of a specific market such as the S&P 500 or some other instrument. Some structured products offer a degree of capital protection, while others do not. The income or growth is not guaranteed, and the investor may not get a return on the investment. Structured products incorporate derivatives within the product structure.

There are both income- and growth-structured deposits as described below:

- A protected growth product is a market linked investment which offers the chance to receive a return when the product matures. The amount of return will depend on market conditions from when the product starts to when it matures. If the underlying asset or index is below the start level at maturity, the investor receives no return. However, if the end level is above the start level, then the investor receives a return depending on the terms of the product.
- Income-structured products are market-linked investments that are designed to pay an enhanced level of income. Income can be fixed and is generally paid annually or monthly depending on the term of the plan. For capital-protected products, the original capital will be returned in full regardless of performance of the underlying asset, subject to counterparty risk.

The nature of the return from a structured deposit will vary and will depend on the terms and conditions. One of the attractions of structured deposits is that they allow the investor to achieve a range of alternative returns. This might include an enhanced return compared to alternative investments or a guaranteed minimum return over a period of time. Structured deposits are usually for fixed periods such as for three or five years.

Other considerations are:

- **Security** – the security of a structured deposit is determined by the creditworthiness of the counterparty bank. The use of credit ratings will help to assess the relative creditworthiness, but it is crucial to ensure the credit risk is assessed and fully understood. Investors should also analyse the terms and conditions of the deposit to identify whether the value of the initial investment is at risk and to what extent.
- **Liquidity** – because structured deposits are arranged between the investor and the counterparty bank, they are relatively illiquid instruments. They cannot usually be redeemed before maturity, without payment of a penalty.
- **Yield** – the return available from structured deposits may be higher than more liquid instruments such as bank accounts and money market funds. This reflects the loss of liquidity faced by the investor and the underlying options built into the transaction.

Structured deposits can have a role to play in a cash strategy subject to ensuring that the risk associated with such products is within the risk tolerance of the client. The complex nature of these products means they are unlikely to be suitable for the operating fund or reserve fund segments.

Short Duration Bonds

A traditional approach to investing the strategic reserve cash segment was to utilise short-dated bonds. A selection of government bonds due to mature in say, three to five years or longer would provide certainty of capital with relatively low credit risk and as they matured, the proceeds could be either utilised to top up the reserve segment or reinvested for later use is not required.

Today's environment of low interest rates has negated this strategy as most major government bonds are trading over par, giving a loss of principal if held to maturity.

An alternative to direct holdings of government bonds is a short-duration government bond fund. These, however, are subject to interest rate risk and do not have the guaranteed repayment of principal which made direct holdings an attractive option for investing part of the cash segment of a client's funds.

Selecting Solutions

The most effective cash strategy will select specific investment solutions for each cash segment. The optimal selection will depend on the size of the funds to be invested and the client's risk profile.

2.3 Bonds and Bond Funds

Learning Objective

7.2.1 Be able to analyse the main factors to consider when selecting bonds and bond funds: direct bond investment strategies; indirect investment in bonds through funds; advantages and disadvantages of investing in bonds and bond funds; costs, turnover, liquidity and ease of trading

Investing in bonds can be achieved either through direct holdings of bonds, indirectly through bond funds or a combination of the two. When selecting bonds or bond funds, it is important to analyse the characteristics of the bonds, their potential returns, and the risks they present before being able to select suitable solutions to meet a client's objectives and risk profile.

2.3.1 Characteristics

As we saw previously, a bond can be defined as a tradable negotiable instrument, issued by a borrower for a fixed term, during which a regular and predetermined fixed rate of interest based upon a nominal value is paid to the holder until it is redeemed and the principal is repaid.

Characteristics of Bonds	
Negotiable instrument	• Bonds are negotiable instruments in that ownership of the security can pass freely from one party to another. This makes bonds tradable.
Borrower	• Bonds can be issued by a wide range of borrowers, including supranationals, such as the World Bank, governments, government agencies, local government and companies.
Fixed rate of interest	• Most bonds are issued with a predetermined fixed rate of interest, known as the bond's coupon. • This can be expressed either in nominal terms or, in the case of index-linked bonds, in real terms, and is usually paid semi-annually. • However, some bonds are issued with variable, or floating, coupons while others are issued without any coupon at all.
Nominal value	• Also known as the par value, most bonds have a nominal value of $100 or £100. • In contrast to the nominal value of equity shares, a bond's nominal value is of practical significance as it is the price at which the bond is usually issued and redeemed, though some issues are made and/or redeemed either at a discount or at a premium to par. • Bonds are also traded on the basis of nominal value rather than market value. • In addition, the coupon is expressed as a percentage of the nominal value. So, a bond with a nominal value of $100 and a 7% coupon paid semi-annually means the holder will receive $3.50 every six months.
Holder	• The holder is the owner of the bond. • Title to holdings is usually in registered form and the record of ownership is held in a **central securities depository (CSD)** with settlement of trades taking place by book entry transfer.
Redeemed	• Most bonds have a fixed **redemption date** upon which the bond matures and the underlying principal, known as the maturity payment, is returned to the holder by the issuer. • Occasionally, some are dual-dated in that they have two redemption dates between which the bond is redeemed by the issuer. • Some bonds, however, are issued in irredeemable, or undated, form or effectively become undated by virtue of the wording of their redemption terms.
Principal	• The principal amount of a bond is its nominal value and represents the maturity payment made by the issuer to the holder of the bond at maturity.

2.3.2 Types of Bonds

Bonds are usually classified according to the issuer, their structure or defining characteristics and the market into which they are issued.

Classification of Bonds	
Issuer	• Most bonds are issued by governments and supranational organisations (known collectively as sovereign borrowers), companies and, to a lesser extent, local government authorities.
Structures	• Bond structures can range from conventional, or straight issues through to ones that have other unique features. • Examples of such bonds include inflation linked, convertible and zero coupon bonds (ZCBs), **floating rate notes (FRNs)** and bonds with provisions for early repayment. • Inflation-linked bonds are ones where the coupon payments and redemption proceeds are adjusted for the impact of inflation. They are also referred to as inflation-protected securities or index-linked bonds. • Zero coupon bonds are ones without coupon payments. They are issued at a discount to their nominal value but are redeemed at par, thereby providing their entire return as capital gain. • Convertible bonds confer a right on the holder to convert into other bonds, or if issued by a company, into its ordinary shares, on pre-specified terms and on predetermined dates. • FRNs are ones that have coupons that are adjusted periodically in line with a benchmark rate such as the Federal Funds Rate. • Bonds with provisions for early redemption. A callable bond enables the issuer to call for early repayment, whereas a bond with a put provision enables the holder to call for early repayment.
Place of issue	• Bonds may be issued into the issuer's own domestic bond market. • They may also be issued internationally in one or across a range of bond, or debt, markets.

Government Bonds

Government bonds are ones that are issued by a national government and which are denominated in that country's own domestic currency. Bonds issued in foreign currencies are known as sovereign bonds although the term has now come to be used to refer to all government bonds.

Governments issue a range of different types of bonds in order to raise finances. The main types encountered are conventional fixed-interest bonds with a range of maturity dates and index-linked or inflation-protected bonds. For example, bonds issued by the US government are known as 'Treasuries' and there are four main marketable types that are described in the following table:

US Treasuries	
Treasury bills	• Treasury bills are a money market instrument used by governments to finance their short-term borrowing needs. • They have maturities of less than a year and are typically issued with maturities of 28 days, 91 days and 182 days. • They are zero coupon bonds, so pay no interest, and instead are issued at a discount to their maturity value. • Once issued, they trade in the secondary market and are priced on a yield to maturity basis.
Treasury notes	• Treasury notes are conventional government bonds that have a fixed coupon and redemption date. • They have maturity dates ranging from two to ten years and are commonly issued with maturities of two, five and ten years.
Treasury bonds	• Treasury bonds are again conventional government bonds, but with longer maturities of between ten and 30 years.
Treasury inflation-protected securities (TIPS)	• These are index-linked bonds. • The principal value of the bond is adjusted regularly based on movements in the **consumer prices index (CPI)** to account for the impact of inflation. • Interest payments are paid half yearly and, unlike the UK version, the coupon remains constant, but is paid on the changing principal value.

Separate trading of registered interest and principal securities (STRIPs) are also traded based on the stripped elements of Treasury notes, bonds and TIPS. Each bond is broken down into its underlying cash flows: that is, each individual interest payment plus the single maturity payment. Each is then traded as a separate zero coupon bond. Apart from governments, other issuers include:

- Supranational organisations such as the International Monetary Fund (IMF), World Bank, European Investment Bank (EIB) and Asian Development Bank (ADB) issue bonds – so-called supranational bonds.
- Government-sponsored agencies issue bonds, known as 'agency bonds', for particular purposes. These are common in the US where examples include the Federal Home Loan Banks (FHLB), the Federal National Mortgage Association ('Fannie Mae') and the Federal Home Loan Mortgage Corporation ('Freddie Mac').
- Local government and municipalities raise their financing through their government or by raising funds through the issue of bonds.
- Sub-sovereign, provincial, state or local authorities issue bonds. In the US, state and local government bonds are known as municipal bonds, and municipalities in the US issue these bonds to finance local borrowing. These bonds are often tax efficient – particularly for investors who reside in that municipality.

Corporate Bonds

Corporate debt is simply money that is borrowed by a company that has to be repaid. Generally, corporate debt requires servicing by making regular interest payments. Corporate debt can be subdivided into money borrowed from banks via loans and overdrafts, and directly from investors in the form of debt instruments or, as they are more commonly known, corporate bonds.

Some of the main types are described in the following table:

Types of Corporate Bonds	
Medium-term notes (MTNs)	• **Medium-term notes (MTNs)** are standard corporate bonds with maturities ranging originally from nine months to ten years; today the term is also applied to instruments with maturities as long as 30 years. • Where they differ from other debt instruments is that they are offered to investors continually over a period of time by an agent of the issuer, instead of in a single tranche of one, sizeable, underwritten issue. • The market originated in the US to close the funding gap between commercial paper and long-term bonds.
Fixed-rate bonds	• The key features of fixed-rate bonds have already been described above. • Essentially, they have fixed coupons which are paid either half-yearly or annually and predetermined redemption dates.

Types of Corporate Bonds	
Floating-rate notes (FRNs)	• FRNs are bonds that have variable rates of interest. • The rate of interest will be linked to a benchmark rate such as the Secured Overnight Financing Rate (SOFR) in the US or the Sterling Overnight Index Average (SONIA) in the UK. This is the rate of interest at which banks will lend to one another in London, and is often used as a basis for financial instrument cash flows. • An FRN will usually pay interest at the reference rate plus a quoted margin or spread.
Convertible bonds	• A convertible bond is a conventional fixed-rate bond that carries the right to convert into the shares of a company. • The terms on which the bond can be converted will be determined at issue and the holder will have periodic opportunities to exercise their right to convert. • If the option to convert is not exercised, the bond reverts to being a conventional bond and is repaid on its maturity date.
Zero coupon bonds (ZCBs)	• A zero coupon bond is one that pays no interest and instead is issued at a discount to its par value and is eventually redeemed at the full par value. • All of the return is provided in the form of capital growth rather than income.

Apart from the type of bond and the issuer, other distinguishing features of bonds are the security, the redemption provisions that are attached to them and the seniority of the bond.

When a company is seeking to raise new funds by way of a bond issue, it will often have to offer 'security' to provide the investor with some guarantee for the repayment of the bond. In this context, security usually means some form of legal charge or pledge over the issuer's assets (eg, its property, buildings or trade assets) so that, if the issuer defaults, the bondholders have a claim on those assets before other creditors and so can regard their borrowings as safer than if there were no security. Domestic corporate bonds are usually secured on the company's assets by way of a fixed or a floating charge. In some cases, the security may also take the form of a third-party guarantee – for example, a guarantee by a bank that, if the issuer defaults, the bank will repay the bondholders. The greater the security offered, the lower the cost of borrowing should be.

In some cases, a corporate bond will have a call provision which gives the issuer the option to buy back all or part of the issue before maturity. This is attractive to the issuer as it gives it the option to refinance the bond (ie, replace it with one at a lower rate of interest) when interest rates are lower than the rate currently being paid on the bond. This is a disadvantage, however, to the investor, who will probably demand a higher yield as compensation. You may also see bonds with 'put' provisions; these give the bondholder the right to require the issuer to redeem early, on a set date or between specific dates.

When there are multiple forms of debt, the issuer will have to establish an order of priority as to which debt will be serviced and the so-called seniority within the entity's capital structure in the event of financial difficulties leading to a re-structuring or liquidation. In broad terms, the seniority of debt falls into three main headings. They are:

- senior
- subordinated, and
- mezzanine and payment in kind (PIK).

It should be noted that each of the three main categories can themselves contain sub-categories such as senior secured, senior unsecured, senior subordinated and junior subordinated.

Eurobonds and Foreign Bonds

Eurobonds are international bond issues. They are a way for an organisation to issue debt without being restricted to their own domestic market. They are generally issued via a syndicate of international banks. Eurobonds are issued internationally, outside any particular jurisdiction, and as such, they are largely free of national regulation. For example, a US dollar Eurobond could be issued anywhere in the world, except for the US. As such, a better name for it might be an international bond.

Foreign bonds are debt instruments that are issued by foreign borrowers in the domestic bond market of another country. They are denominated in the currency of that country and then trade in that market in a similar fashion to other domestic corporate bonds. Since investors in foreign bonds are usually the residents of the domestic country, investors find them attractive because they can add foreign exposure to their portfolios without the added exchange rate exposure. Issuers make bond issues in foreign currencies to make them attractive to investors and to take advantage of interest rate differentials.

2.3.3 Risk and Return

Returns

The return on a bond is the coupon along with any gain or loss on the instrument if held until redemption.

A coupon is the common term that is used for the rate of interest paid on the nominal value of a bond. There is a range of possible options as to how a coupon on a bond is paid, and the different types of coupons encountered are:

- fixed coupons
- stepped coupons
- floating rate coupons, and
- inflation-linked coupons.

The repayment of a bond may lead to a gain or loss depending upon the price paid by the investor. Repayment of the bond usually takes place on a fixed date, but some bonds have provisions that enable early repayment and inflation-linked bonds are ones where the interest payments and the maturity payment are adjusted by the amount of inflation over the life of the bond. The amount of inflation uplift

is determined by changes in a published inflation index. Details of the rate, payment dates and any variations will be set out in the bond's prospectus when it is first issued.

Risks

An investor in a fixed-income security is exposed to a number of different risks, and any complete assessment of a bond must include consideration of these factors. These include the risks in the following table:

Risk Factors	
Interest rate risk	• This is probably the most important risk because of the powerful relationship between interest rates and bond prices. • Duration and modified duration are the means of measuring this risk and **convexity** is the measure that is used to explain the variation away from the predicted return. • Interest rate risk is largely removed if the bond is floating rate, since the coupon will be reset in line with the higher market interest rate. FRNs can, however, be susceptible when there is a decoupling between rates and inflation.
Issuer risk	• Default risk is the risk of the issuer defaulting on its obligations to pay coupons and repay the principal. • Issuer risk can arise from factors that are specific to the bond issue, which tend to either increase or decrease the risk, eg, such as the right to call for early redemption.
Inflation risk	• Inflation risk is linked to interest rate risk, as interest rates have to rise to compensate bondholders for declines in the purchasing power of money. • Inflation risk may be reduced by investing in inflation-linked bonds.
Liquidity risk	• The ease with which an issue can be sold in the market will affect the investor's perception of the risk of holding a bond. Smaller issues especially are subject to this risk. • In certain markets, the volume of trading tends to concentrate into the benchmark stocks, or the on-the-run stocks, thereby rendering most other issues relatively illiquid. Other bonds become subject to seasoning as the initial liquidity dries up and the bonds are purchased by investors who wish to hold them to maturity.
Currency risk	• This risk arises when converting cash flows received from overseas investments, such as foreign stocks and shares, back into the domestic currency of the investor.

Bond issues subject to credit ratings can be divided into two distinct categories: those accorded an investment grade rating and those categorised as non-investment grade or speculative. The latter are also known as 'high-yield' or 'junk bonds'. Investment grade issues offer the greatest liquidity.

A credit rating provides an estimate of the credit worthiness of an individual, corporation or even a country. For corporate and sovereign issuers, an evaluation is made by credit-rating agencies of a borrower's overall credit history, and they provide a classification system enabling a lender or investor to estimate the probability of the issuer of a credit such as a bond being able to make repayment in accordance with the terms of the borrowing, or more specifically the offering prospectus for a bond issue. A major factor in the credit rating given to a bond will be the level of security associated with it and its ranking in the event of bankruptcy.

A major driver of bond prices is the prevailing interest rate and expectations of interest rates to come. Yields required by bond investors are a reflection of their interest rate expectations. The factors that influence the prices of bonds can be summarised as follows:

- Specific issuer factors.
- Macroeconomic or market factors, eg, changes in prevailing interest rates and inflation (and expectations of such changes).
- The characteristics of a particular issue and the quality of the issuer encompass the following:
  - Current credit rating (which itself will reflect the issuer's specific prospects) and highlight the default risk.
  - The structure and seniority of the particular issue, for example, the bonds may be high or low priority in the event of default by the issuer and may be structured in a way that gives the bonds particular priority in relation to particular assets (such as mortgage-backed bonds).
  - The credit rating and structure of the issue combined with prevailing yields available on other benchmark bonds (such as government issues in the same currency, with similar redemption dates), will determine the required yield to maturity (YTM) and, therefore, the appropriate price.
  - Liquidity – the more liquid bonds tend to be more expensive, encompassing a liquidity premium and having lower bid/offer spreads.

Advantages and Disadvantages

Advantages and Disadvantages of Investing in Bonds	
Advantages	• Pay higher interest rates than savings accounts. • Usually offer a relatively safe return of principal. • Often have less volatility (price fluctuations) than stocks, especially short-term bonds. • Offer regular income. • Need less careful attention in management than other investments.

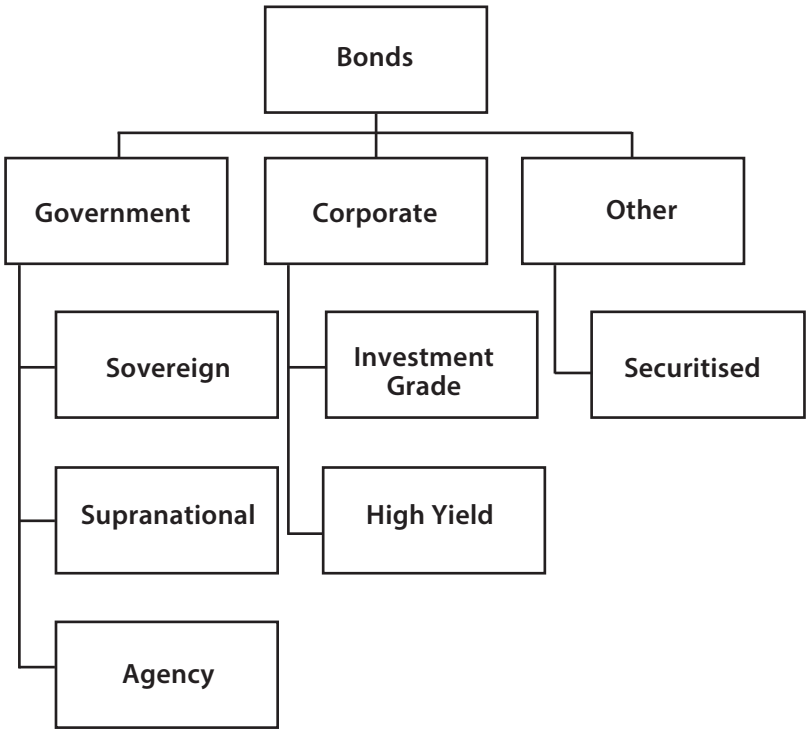
Advantages and Disadvantages of Investing in Bonds	
Disadvantages	• Conventional bonds offer no hedge against inflation as the coupon and maturity payment are fixed and as inflation causes interest rates to rise, this then causes bond prices to fall. • Even though they are generally less volatile than stocks, bond prices can be quite volatile because market interest rates vary after a bond is issued. • Bonds over the long term have lower returns than stocks. • Individual bonds do not compound their interest. However, this is possible with bond funds. • Diversification is hard to achieve unless investing in bond funds. • Depending on economic conditions and demand, a bond can be difficult to sell and can, therefore, be less liquid than equities.

2.3.4 Bond Asset Allocation

With the many different types of bonds available, an investment manager needs to be able to classify these into different categories to be able to identify which category is suitable for different client types and how diversification across the asset class can be achieved.

A high-level breakdown of bond types is shown in the following diagram:

Bond Types



Starting with this high-level breakdown of bond types, we can then further refine each category. For example:

- For government bonds, we might identify sub-levels such as conventional and inflation-protected bonds and further divide these by geography and by maturity profile.
- For investment-grade bonds, we might further refine this by seniority, credit rating, industry sector, geography and maturity profile.

This simple example shows that we need to go further than just allocating a percentage of investable funds to bonds and need to look at the sub-asset classes and identify their advantages and disadvantages relative to the objectives and risk profile of the client.

Some of their characteristics are shown in the following table:

Characteristics of Bond Sub-Asset Classes	
Government bonds	• Government bonds generally have the lowest level of default risk, but the credit rating of different countries' government bonds will vary and will reflect factors such as the strength of the economy and the ratio of public spending to tax receipts. • They tend to have relatively high sensitivity to interest rates (measured by duration), performing well when interest rates are falling and vice versa, and relatively low sensitivity to economic growth.
Investment-grade corporate bonds	• These are bonds issued with a credit rating of BBB or higher and as such, are relatively low-risk investments. • Investment-grade bonds will generally have a higher yield than government bonds but a lower yield than high-yield bonds. • Like government bonds they have relatively high sensitivity to interest rates but are more sensitive to economic growth. The returns on such bonds depend to some extent on companies' performance.
High-yield corporate bonds	• These are bonds issued by companies with a credit rating lower than BBB. The lower rating usually reflects factors such as the company owing a relatively high level of debt. • High-yield bonds are, therefore, regarded as relatively risky and have seen larger fluctuations than other fixed income asset classes in the past. • However, it has relatively high-return potential and tends to pay higher coupons to reflect the risk. • High-yield bonds tend to be more sensitive to economic growth than moves in interest rates.

Characteristics of Bond Sub-Asset Classes	
Securitised credit	• These are **asset-backed securities (ABSs)** that are secured against an underlying pool of loans such as mortgages or credit card loans. • One of the features of securitised bonds is that should the issuer of the bond default, the bondholders can still be repaid from the underlying loan assets. • Securitised bonds will often offer attractive yields and be floating rate to reflect that the interest on the underlying pool of mortgages or credit card loans is also variable.
Emerging market (EM) bonds	• These are bonds issued by EM countries or companies which are regarded as a separate category in their own right. • Credit ratings will vary widely but are generally seen as sitting at the riskier end or the risk spectrum as many EM countries are still relatively exposed to global economic growth and international trade. • EM bonds can be categorised into 'hard' bonds that are purchased in US dollars or euros and local currency bonds. Hard currency bonds are more sensitive to changes in US interest rates, while local currency bonds can be more influenced by country specific factors.

The diversity across and within the numerous sub-asset classes of global fixed income is significant and returns vary markedly across different fixed income markets over time, which reflects their different characteristics and risk. The following chart shows the returns of the sub-asset classes since 2010 which emphasises this point.

Fixed Income Sub-Asset Class Returns

Data source: Magnus Financial

At one level, the data above shows the possibilities for targeting different risk and return opportunities but also emphasises the need for diversification.

- Government bonds and securitised bonds offer greater security and can provide downside protection in the event of slowing or declining economic growth compared to equities.
- Investment-grade corporate bonds can boost returns compared to government bonds.
- For investors seeking higher return potential, high-yield bonds and emerging market bonds are options but exhibit greater volatility and larger drawdowns.
- Combining the different sub-asset classes can have diversification benefits. For example, the negative returns on high-yield bonds in some years can be offset by the returns on other bonds to smooth returns.

2.3.5 Direct Bond Investment and Bond Funds

Exposure to bonds can be obtained through direct investment or through investment funds.

In fixed income investing, diversification among issuers, credit qualities, and term structures is a primary consideration. Government bond markets are sufficiently liquid to allow direct holdings to be a solution but once you move away from these highly liquid issues, different dynamics suggest an indirect solution may be the best solution for investment management clients.

Bond funds typically provide substantially more diversification among issuers, credit qualities, and maturities, as well as in the range of individual bond than a buyer of single bonds can obtain. This is possible largely because a bond fund has a larger pool of investable assets, along with the professional staff needed to conduct credit analysis.

- The dynamic nature of credit risk makes it essential to diversify issuer-specific risk. The number of issues required to construct a well-diversified bond portfolio is debatable, but is likely to be significant. Gaining an appropriate level of diversification can be impractical except for the wealthiest investors.
- Bond funds can also maintain more consistent risk characteristics than is possible from a portfolio with fewer bonds or with concentrated positions. Regular ongoing cash flows allow the bond fund to preserve the desired portfolio characteristics such as duration.
- Greater diversification allows the bond fund to seek return opportunities farther out on the credit quality spectrum than is possible for an individual investor.
- For fixed-income investments, costs tend to be a more significant drag on performance and therefore to exert an important influence on returns. The bid-ask spread tends to vary by trade size and bond sector, and the size of the spread is typically larger for small transactions.

2.3.6 Assessing Bond Funds

As bonds have a predictable stream of interest payments and the security of repayment of principal, they can play a large role in the construction of a portfolio to meet the needs of an investor. This is whether that is providing a secure home for their funds, generating a dependable level of income, or providing funds for an upcoming expense or liability.

Factors to Consider when Assessing Bond Funds

To assess whether a bond fund is suitable for inclusion in a portfolio, the adviser needs to consider a number of issues including:

- **Investment objectives** – although bond funds may have similar objectives, such as achieving a high income or preservation of capital, there are differences in how they achieve this. Some may limit their investments to government stocks, while others may invest in different bond sectors including government, corporate and ABSs.
- **Passive bond funds** – bond ETFs need to overcome the issue of the OTC nature of the bond market, its lack of price transparency and the illiquidity of some index components. This is normally achieved through representative sampling which only tracks a certain number of bonds that make up an index and can, therefore, lead to significant tracking error.
- **Average maturity** – a fund holds a range of bonds with different maturities and calculates a weighted average maturity. The longer the maturity, the more sensitive the fund will be to changes in interest rates.
- **Duration** – modified duration provides an indication of how much a bond's price will fluctuate with changes in comparable interest rates. Very simply, if rates rise by 1%, for example, a fund with a five-year duration will likely lose about 5% of its value. Other factors will, however, also influence a bond fund's performance and share price, so actual performance may differ.
- **Credit quality** – the average credit quality of a bond fund depends on the credit quality of the underlying securities in the portfolio, so that the greater the exposure to non-investment grade stocks the higher the risk.
- **Performance** – the total returns the fund has generated over a period of time needs to be investigated and reviewed in conjunction with the yield it generates to see whether higher yields are being achieved through investments in lower quality securities, which may make the share price of the bond fund more volatile.
- **Fees and charges** – the individual and total expenses of the fund need to be established to assess the impact on performance and make comparisons with comparable funds.
- **Fund managers** – bond markets have become increasingly complex and it is, therefore, important to assess the professional expertise of the fund management team.

2.4 Equities and Equity Funds

Learning Objective

7.2.2 Be able to analyse the main factors to consider when selecting equities and equity funds: direct equity investment strategies; indirect investment in equities through funds; growth/dividend prospects; advantages and disadvantages of investing in equities and equity funds; costs, turnover, liquidity and ease of trading

Shares, or equities, are simply units of ownership in a company. When a company is first established, a group of investors come together to form the company and provide the initial capital. The amount each contributes determines the share of the capital that investor owns and gave rise to the term 'shares'.

From a company's perspective, there are two characteristics that make equity capital different from other forms of capital that the company can use as highlighted below:

- First, shareholders as the providers of equity capital are not guaranteed any fixed interest rate or any given rate of return on the money that they invest.
- Second, once the equity capital is provided to the company, shareholders cannot withdraw their individual stakes.

These characteristics mean that equity capital is crucial to, and particularly well suited for, long-term corporate investments that have an uncertain outcome.

2.4.1 Advantages and Disadvantages of Investing in Equities

As the providers of risk capital to a company, shareholders are able to benefit if the company performs well but also accept the risk that they may receive nothing if the company becomes bankrupt.

Equity owners seek two types of return from their investment: capital growth and dividends. As a company's value increases, so should the price of its shares, which might then be sold for a profit. The opposite is true if a company's value decreases; the shares will drop in price and may have to be sold for a loss.

Advantages and Disadvantages of Equities	
Advantages	• Equities typically provide the best returns of any asset class over the long term. • Equities traditionally provide a hedge against inflation. • Ability to participate in international as well as domestic opportunities in a broad variety of different industries, helping to achieve a great degree of diversity and reduce risk within the portfolio. • Equities offer improved liquidity when compared to other forms of investment such as direct property or alternative investments like art, diamonds, gold and vintage cars.
Disadvantages	• Share prices fluctuate, which short-term-orientated investors may find disconcerting. • Overseas markets may have different regulatory and corporate governance requirements. • Companies may suffer financial problems and possibly even go bust, resulting in the loss of the investor's capital. • Unlisted or small-cap stocks are potentially riskier and may even prove difficult to trade in certain market conditions.

Turnover

Turnover refers to the rate at which the individual equities within a portfolio, directly or indirectly held, are bought and sold. Whether an investor holds equities directly or indirectly through a fund, the frequency of purchase and sale transactions within the portfolio may impact on the eventual rate of return experienced by the investor, particularly if the level of trading is significant.

Liquidity

Unlisted stocks may be difficult to trade in certain market conditions and could, therefore, be termed illiquid. Indirect investment in equities may offer greater liquidity by comparison, due to the ability of the fund manager to repurchase an investor's interest in the fund, using cash held for this purpose.

Ease of Trading

One of the benefits of holding equities directly is that they can be very easy to trade. A number of well-known stockbrokers offer dealing facilities via the internet, allowing retail investors the ability to trade online, at minimal cost, once the account opening process has been completed.

Purchasing indirect equity holdings, through a mutual fund (collective investment scheme (CIS)), for example, usually requires a little more administration. In the past, this would have involved the completion of an application form to purchase 'units' in a particular fund, which would then be submitted to the manager with a cheque for the investment amount. However, it is now possible to open an account with a fund supermarket or platform and buy and sell funds in much the same way as direct equities through a stockbroking account. This ongoing development in IT back-office systems and their integration with the internet is enabling even greater access to investment opportunities, reducing both cost and administration.

2.4.2 Equity Asset Allocation

As with other asset classes, there is a wide choice of potential investments to consider and so the investment manager needs an approach that can sift through the many choices so that they can identify potential solutions to meet the client's needs.

Factors that need to be considered include:

- the level of diversification that will be sought across various sectors, countries and investment themes
- the market capitalisation of potential holdings and the proportion invested in large-, mid- or small-cap shares
- the choice between direct and indirect investment or a combination of the two
- whether actively- or passively-managed investment solutions will be used, and
- the investment style adopted.

We will look at each of these further below.

2.4.3 Equity Market Diversification

Mitigating the risk arising from equities involves diversifying equity investment across different sectors, geographies, style and size to enable a spreading of risk exposure.

The case for taking a global approach to equity investing is now widely accepted. The rationale for diversification is clear – domestic equities tend to be more exposed to the narrower economic and market forces of their home market while stocks outside an investor's home market tend to offer

exposure to a wider array of economic and market forces. These differing economies and markets produce returns that can vary from those of an investor's home market.

- Simply focusing on domestic companies means an investor has no stake in leading global companies that are domiciled outside their home market.
- Many domestic firms with large overseas operations seek to hedge away currency fluctuations of their foreign operations. Although this can help smooth revenue streams, foreign exchange can be a diversifier for an investor's portfolio.
- A portfolio made up solely of domestic firms is likely to have less-diversified sector exposures than the global equity market portfolio.

The decision to invest globally means determining an appropriate allocation. The standard financial theory approach, whether for a global allocation or for an allocation within a specific country or market, is to start with allocating funds proportionally according to global market capitalisation and then refine this to the client's objectives and risk profile.

2.4.4 Market Capitalisation

Equity markets offer investors various opportunities to invest as per their goals, investment time horizon and risk appetite. These opportunities come in many shapes and sizes, which makes the size of the company an important factor to consider while making equity investments. Consideration should, therefore, be given to the market capitalisation of stocks and further diversification achieved through selecting between large-, mid- and small-cap stocks.

In stock market terminology, a company's value is measured by calculating how much its shares are worth in total. If a company has 1,000 shares in issue and each is worth $1, for example, the company is capitalised at $1,000. If the share price rises to $1.50, the company will be capitalised at $1,500. This is often referred to as a company's 'market cap'. The biggest companies on a stock exchange are often known as large caps, others are described as mid-caps, and the smallest shares are known as small caps.

Large caps are sometimes referred to as 'blue chip shares' and many hold certain characteristics. Typically, they are more heavily traded than smaller stocks, which make it easier for investors to buy and sell them. Technically speaking, they are more 'liquid', which essentially means they are easier to trade. Smaller company shares, by contrast, can be less liquid, which means their shares are traded less regularly.

2.4.5 Direct and Indirect Investment

Equities clearly have a major part to play in the investment portfolio of all investors; this can be achieved either by direct investment in shares, indirectly through investment funds, or by a combination of both.

Appreciating the need to diversify and having regard to the client's objectives, it is unlikely that a single investment fund or one individual security will meet a client's requirements. As an alternative to direct investment, or to complement direct holdings, investors can also utilise the wide range of equity investment funds or ETFs that are available.

2.4.6 Active and Passive Management

The active versus passive debate for equity investment is the subject of significant market commentary and heated debate among proponents for one side or the other. The key questions at the heart of it focus on the ability (or not) of active managers to beat their underlying benchmarks and whether investors should simply abandon active strategies for passive investments. When formulating an investment strategy, this is a debate investors and investment managers can ill afford to ignore.

Active management means investing in funds whose fund managers select investments based on an independent assessment of each investment's worth – essentially, trying to choose the most attractive investments. Passive investment simply seeks to own all the stocks in a given market index, in the proportion they are held in that index. A key difference between the two portfolio management strategies, therefore, is that generally an active investor tries to beat the market, whereas a passive investor tracks a market index.

Characteristics of Active and Passive Management		
	Active Management	**Passive Management**
Objectives	Aims to outperform the market.	Tracks a specific index.
Philosophy	Investors are irrational and emotions create inefficiencies that can be exploited.	By the time that information becomes available and can be acted on, it is already incorporated into the price.
Techniques	Stock picking.	Replicating the constituents of an index.
Investment decision-making	Investment manager.	Index.

The rise of passive investment management has been the most significant investment trend of the past decade. Passive investing has made significant inroads into assets under management at the expense of actively-managed funds – although actively-managed funds continue to dominate equity investment. In the years since the financial crisis, investors have been pulling money out of underperforming, expensive active funds and sending them to cheaper, market-performing passive funds.

In selecting equities and equity funds, we should, therefore, look at the advantages and drawbacks of both approaches in order to judge which may be most suitable for a client. These are highlighted as follows:

Active versus Passive Investment Management		
	Advantages	**Disadvantages/Drawbacks**
Active management	• The opportunity to outperform the market. • Flexibility to invest. • Ability to minimise potential losses by avoiding certain sectors or regions.	• Performance depends on the skill of the investment manager. • Higher management fees are required to pay for the expertise and resources required for active management. • The loss of a fund manager – key person risk – can impact future returns if they are replaced by a less talented fund manager.
Passive management	• You know precisely what you are getting and it is unlikely that a passive fund will materially underperform the market. • Management fees are usually lower than actively-managed funds. • Passive funds can offer a quick and easy way to access certain markets, sectors and strategies. • There is no key person risk.	• No chance of outperformance or opportunity to take advantage of short-term market opportunities. • Trading costs arising from regular rebalancing are in addition to the advertised low cost. • The investor is required to accept an index, however constructed, and regardless of the quality of the underlying holdings of that index.

The decision on which approach is best is not straightforward. While a portfolio's overall asset allocation is key to achieving the client's objectives, it still needs to be populated by investments and probably the right approach is a blend of the two.

The merits of each strategy are very different depending on the market in question.

- In certain regions, it is much harder to find active managers who consistently outperform their passive counterparts, a good example being US equities.
- In Europe, Asia and the emerging markets economic and political factors potentially change quickly which allows flexible active managers to exploit any resultant volatility. Passive funds, on the other hand, do not have the luxury of such freedom.
- The smaller companies' universe is another corner of the market that offers opportunities for active managers to exploit market inefficiencies through fundamental analysis and stock picking.

While passive investing is suited to certain 'efficient' markets, active investing gives key advantages in many other markets or assets classes. For this reason, a hybrid approach where active investing is supported by targeted passive investing can offer the best of both worlds.

Active strategies have tended to benefit investors more in certain investing climates, and passive strategies have tended to outperform in others. Generally, when the market is volatile, active managers may outperform more often than when it is not. When specific securities within the market are highly correlated or moving in unison, passive strategies may be the better way to go. Investors may be able

to benefit from mixing both passive and active strategies in a way that leverages the most valuable attributes of each. Market conditions change all the time, so it often takes an informed eye to decide when and how much to skew toward passive as opposed to active investments.

2.4.7 Investment Styles

Wealth management and asset management firms have an investment philosophy that guides how they select suitable assets and securities in which to invest. These include the investment style that they adopt to pick the equity element of a portfolio.

Some common equity investment styles are:

- value
- growth
- momentum, and
- quality.

We will look at some of these styles below, but before doing so it is worth noting that these styles are not necessarily mutually exclusive. Some investment managers and some funds will switch between the different styles depending on the economic cycle; for example – during economic expansion they may favour a growth or momentum approach; during an economic slowdown the style adopted may favour quality or minimum volatility and during the recovery phase it may favour value before switching again to growth or momentum styles as the economy shows signs of recovery.

That said, a particular investment style may be best suited to clients who have different time horizons, goals and risk tolerance.

Value Investing

Value investing is an investment strategy that seeks to identify stocks that are trading at less than their intrinsic value for reasons which are not justified over the longer term.

Value investing is one of the oldest investment styles and one of its early influential proponents was Benjamin Graham who developed the concepts behind value investing with finance professor David Dodd at Columbia Business School. In the wake of the Great Depression, they laid the groundwork for a more rigorous, conservative approach to investing that continues to be used today.

Graham identified a series of tests that are still widely used in value investing. He recommended the following seven tests to be carried out when stocks are identified for inclusion in a defensive portfolio.

Value Investing Tests	
Adequate size	There can be some risk attributable to the size of a company or enterprise, as a smaller company is generally subject to wider fluctuations in earnings. Graham recommended setting minimum size parameters that should be met, such as annual sales.

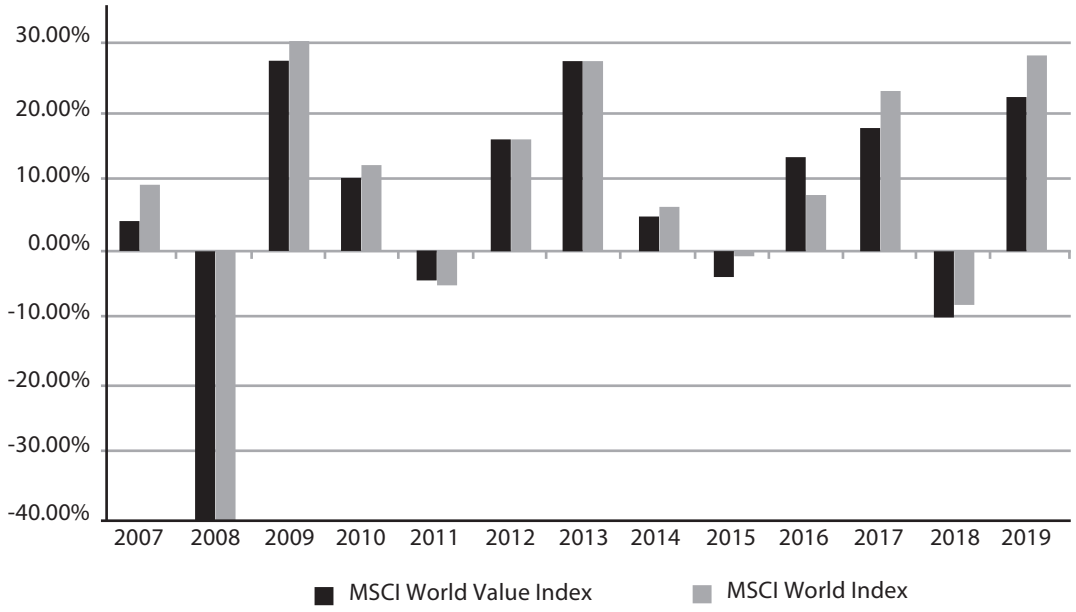
Value Investing Tests	
Strong financial condition	A company should have a current ratio of at least two (ie, cash and near-cash should be twice its near-term liabilities), and long-term debt should not exceed working capital in order to provide a strong buffer against the possibility of bankruptcy or default.
Earnings stability	The company should not have reported a loss over the past ten years, because companies that can maintain at least some level of earnings are, on the whole, more stable.
Dividend record	A company should have a history of paying dividends on its shares for at least the past 20 years in order to provide some assurance that future dividends are likely to be paid.
Earnings growth	To help ensure a company's profits keep pace with inflation, net income should have increased by one-third or greater on a per-share basis over the past ten years, using three-year averages at the beginning and end.
Moderate price to earnings ratio	The current price of a share should not exceed 15 times its average earnings for the past three years to act as a safeguard against overpaying for a security.
Moderate ratio of price to assets	The current price should not be more than one and a half times the book value of assets.

Firms or managers who adopt a value-investing strategy actively search for the shares of companies that they believe the market has undervalued. Behind the concept is the belief that markets overreact to good and bad news, and this results in share price movements that do not correspond with the long-term fundamentals of the company. This creates an opportunity for dispassionate, long term value investors to buy when the price is deflated and sell when market correction takes place.

Academic studies have shown that stocks trading with low price-to-earnings or price-to-book ratios can, over time, beat the broader market. There are many ways of measuring value and approaches to value investing, but in essence it involves unearthing under-appreciated securities trading at unfairly low prices.

Value investing is not always in favour, however, and as the approach requires the investment manager to take a contrarian approach, it can mean that investment selection or the strategy itself can suffer from prolonged periods of underperformance if the market does not recognise the 'value' in such stocks. Since the financial crisis, the return on US value stocks has been significantly lower than that of the S&P 500 and has been seen in other global markets as the following graph of the MSCI World Value Index compared to the MSCI World Index shows.

MSCI World Value Index versus the MSCI World Index



Source: MSCI, Curvo £1,000 invested on 01.01.98

A focus on recovery potential, rather than earnings growth, differentiates value investing from growth investing, as does a belief that individual securities eventually revert to a fundamental or intrinsic value. This is known as reversion to the mean. In contrast to growth stocks, true value stocks also offer the investor a considerable safety margin against the share price falling further, because of their characteristically high dividend yield and relatively stable earnings.

The value investing approach has an intuitive attraction that is easy to understand. However, investment managers should recognise that it requires a long-term view and that different investment styles may be in or out favour at any point of time.

Growth Investing

A growth investing strategy looks for companies with consistent, above average earnings and revenue growth. As a result, growth investors are willing to pay a premium for a stock now because they believe the company will grow faster in the future. This leaves growth companies with a higher P/E ratio; basically, growth investors are willing to pay a higher price now, for long-term future earnings growth.

True growth stocks are those that are able to differentiate their product or service from their industry peers so as to command a competitive advantage. This results in an ability to produce high-quality and above-average earnings growth, as these earnings can be insulated from the business cycle. A **growth stock** can also be one that has yet to gain market prominence, but has the potential to do so.

At its most aggressive, growth investing simply focuses on those companies whose share price has been on a rising trend and continues to gather momentum as an ever-increasing number of investors jump on the bandwagon. This is referred to as 'momentum'.

Momentum investing aims to capitalise on the continuance of existing trends in the market. It involves buying shares that have had high returns over the past three to twelve months and selling those that have had poor returns over the same period. The momentum investor essentially believes that it is possible to ride these trends and make profits. This strategy involves taking a long position in an asset that is moving upwards and short-selling one that has been in a downward trend. The basic idea is that once a trend is established, it is more likely to continue in that direction than to move against the trend.

Momentum investing ignores asset allocation and diversification because the focus is always on the most popular and fastest-growing investments. Risk is managed instead by moving quickly out of industries and assets that start showing signs of deteriorating performance. As a strategy, momentum investing has the advantage of being able to switch between multiple asset classes and deliver potentially high returns. It is, however, a demanding strategy to implement and will result in portfolios being highly volatile.

A growth strategy is exposed to greater risk than a value fund as it is more dependent on judgments about the business, its markets, its management and its ability to extract future earnings growth from the industry it operates in. The key to growth investing is to rigorously forecast future earnings growth and to avoid those companies susceptible to issuing profits warnings. A growth stock trading on a high P/E ratio will be savagely marked down by the market if it fails to meet earnings expectations.

Some investors have sought to bridge the value–growth divide through a hybrid strategy, opting for the growth at a reasonable price (GARP) approach. GARP stocks are selected by a combination of earnings growth and valuation and are generally based on price/earnings to growth ratio (PEG). The idea is to identify those that sit somewhere between cheap stocks with a bleak future and overhyped and overvalued growth stocks. Fusing value and growth have an intuitive appeal, but is somewhat at odds with academic research. Its key benefit is possibly requiring investors to adopt a systematic framework to identify growth stories albeit only when they are trading at reasonable valuations.

While growth investing might originally have meant identifying companies that could grow steadily into successful big businesses, such as Apple, Intel or Microsoft, this strategy has since moved on in scope. Growth-investing funds now tend to seek out stocks with high growth rates that are trading at reasonable valuations, although there are many variations on this approach.

Growth investing now refers to any investment style that aims to produce capital growth rather than income. So it also includes investing in recovery shares or in special situations. Many specialist funds, such as those investing in natural resources, technology or infrastructure, are simply specialised growth funds.

Quality Investing

The quality investing style was thought of as sitting between value-based investment strategies and growth but research has provided strong support to it as a new stock selection style in its own right.

Its approach can be summed up in the following table:

Differences between Value, Quality and Growth Investment Styles		
Value	**Quality**	**Growth**
Investing in companies that are trading at a discount to absolute or relative value.	Investing in high quality companies with management credibility and balance sheet stability.	Investing in companies expected to generate high future profits and strong growth in earnings.
Low price-to-earnings and price-to-book ratios.	High returns on equity, high free cash flow, stable earnings growth, low financial leverage and low valuation.	High earnings per share growth.

While they may share similar traits, quality investing should be viewed independently from both the value and growth styles. The value investor is mainly concerned with valuation, and the growth investor's primary focus is earnings forecasts. A quality investment strategy involves investing in financially strong companies that have a demonstrated record of generating superior and stable profitability.

Quality companies can sustain their competitive advantage longer than lower quality companies giving them the potential to deliver positive performance that is then rewarded in their share price. Quality stocks can also offer lower volatility in returns. Quality companies have higher profitability with a record of stable business performance over time and have the financial strength to be able to invest for the long term.

Quality investing is a fundamentally-based investment strategy that seeks to select companies with sustainable business performance while excluding companies that are likely to disappoint. What constitutes quality can vary but examples include:

- High returns on equity, cash flow generation and margins that are consistently produced so as to avoid temporarily high earnings of cyclical companies at the top of their business cycle.
- Stable fundamentals such as the growth of dividends, stability of cash flows, earnings and sales over time and how management is expanding the business and its sustainability.
- Having appropriate leverage given the investment cycle, cyclicality of cash flows and opportunities to invest in high returning investments and avoiding those companies that are expanding via excessive financial leverage which is unlikely to be sustainable.

Quality investing is about finding companies with sustainable business models and these companies can be found in all industries and sectors of the economy, however defining the attributes of such companies requires careful consideration and will differ across industries. Quality tends to be rewarded at certain stages of the business cycle, so it is important to ensure that a quality portfolio is properly diversified across multiple themes. Equally, it is important to avoid paying an unjustified premium for higher quality businesses to avoid later disappointments.

2.4.8 Equity Funds

Equity funds represent the majority of investment funds that are available and are widely used in investment portfolios by both institutional and retail investors. Even where an investor has a direct investment portfolio of equities, it is normal for an investment fund to be used to achieve exposure to certain markets or specialist sectors. There are funds that provide exposure to global stock markets, economic regions such as Europe, the market of one country, and specialist sectors such as health care.

The wide range of funds available means that a structured approach is needed to identify what type of fund might be suitable for an investor.

When selecting investment funds for the equity element of a portfolio, an investment manager might start by ensuring that they hold funds that give exposure to stock markets around the world. This may be achieved by global, regional or even country-specific funds. In each case, the investment manager needs to decide between a fund that targets the market as a whole as its benchmark, or a fund based on capitalisation or style in the attempt to maximise returns. This could involve adding funds that give exposure to mid cap and small cap stocks, or to areas such as ethical investing, ecological funds or emerging markets.

Factors to Consider when Assessing Equity Funds

There is a wide range of equity funds available and some of the factors an adviser should consider when investing in equity funds are:

- investment focus and style adopted
- geographic focus of the fund, ie, does it focus on a single country, a region such as Asia, or does it have a global investment mandate
- any focus on specific investment themes such as ethical investing or niche growth areas
- the scale and depth of research available to the fund to identify investment ideas, and
- the benchmark used to assess performance and the fund's relative performance against that to identify whether it is being managed actively.

As we saw earlier, ETFs and index mutual funds seek to replicate the performance of an index. To assess whether such a fund is suitable for inclusion in a portfolio, the adviser needs to consider a number of issues including:

- **Underlying index** – the type and components of the underlying index and any issues in replicating the performance.
- **Indexation methodology** – whether physical or synthetic replication is used, the type of optimisation used and the level of tracking error.
- **Collateral and counterparty risk** – the number of counterparties used, how collateral is taken and how such risks are managed.
- **Leverage** – the extent of any leverage or complex tracking strategies used.
- **Charges** – the ongoing management charges and level of transaction costs associated with replicating the index.
- **Dealing** – the level of liquidity and the number of participants active in the market which will impact any variance from the fund's net asset value (NAV).

2.5 Analysing Fund Data

Learning Objective

7.2.4 Be able to analyse and compare charges on the basis of impact, reduction in yield and total expense ratios/ongoing charge and synthetic risk, Sharpe ratio, R-squared and reward indicators

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We looked at fund analysis in chapter 3, but in summary this involves assessing a number of different aspects of the fund to determine whether they are appropriate to include in the portfolio. These include:

- investment objective
- fund manager tenure
- past performance, discrete and cumulative returns
- volatility
- investment philosophy
- investment process
- assets held in the fund
- comparison with benchmark and peers
- initial and ongoing costs, and
- independent ratings of fund and manager.

A number of independent ratings agencies exist including Morningstar, Lipper and Fitch, which provide analysis and pricing information on investment funds to aid both private investors and investment advisers.

Investment Philosophy, Process and Performance

One way to analyse funds is to look at its people, its investment philosophy, its investment process and its performance.

- The experience of the fund management team is a key component of the returns that a fund can generate. A number of independent fund ratings agencies provide ratings on the experience of a fund management team relative to the performance it has produced.
- An investment philosophy is the set of beliefs and principles that guide a fund's investment decision-making. For example, a fund may have an investment philosophy described as highly disciplined that combines top-down and bottom-up approaches in a GARP investment style.
- A fund's investment process describes how it goes about its investment selection decisions. For example, a centralised approach is one where an investment committee determines market and asset class expectations that are then deployed across its fund range. Other fund management groups may provide greater leeway to individual fund managers.
- While past performance is not a reliable predictor of future returns, investors need to consider a fund's performance record in context and whether this is consistent with its investment philosophy and investment process. Past performance should be compared to the fund's benchmark rather than its peer group.

Expense Ratios

Costs have been a major consideration when assessing different investment funds for many years and the level of fees has a direct impact on the investment performance that the investor sees. As a result, regulators have imposed standard ways in which costs must be disclosed.

Investors incur a range of potential fees when investing in and holding investment funds including:

- Their adviser may charge for the advice of which fund to select or receive commission from the investment fund.
- An initial charge may be made when investing in an open-end fund or a brokers charge when buying shares in an investment trust or ETF.
- The fund managers will charge an annual management fee as their reward for managing the fund's portfolio.
- The fund will incur costs every time it undertakes stock market transactions; these can either be direct costs such as brokers commission and transaction taxes or indirect costs such as differences in bid-ask spreads.
- The fund will also incur costs for its administration. These will range from marketing costs to paying for the services of custodians, payment agents, lawyers and auditors among others.
- The investor may also incur costs when they decide to sell their holding either through an exit fee for open-end funds or brokers costs for stock exchange quoted funds.

As we saw in chapter 3, investment funds are required to disclose their expenses and these may be presented in the form of a standardised fee table as in the US or as an ongoing charges figure or total expense ratio in Europe. It is important to recognise, however, that not all costs are included in this disclosure as some lie outside of the fund such as an adviser's or brokers charge and some are excluded from the required disclosure.

In simple terms, the more the investor pays in costs, the less they keep as investment returns. The cumulative effect of charges on investment returns can be significant over time. The impact can be seen readily by using future value calculations.

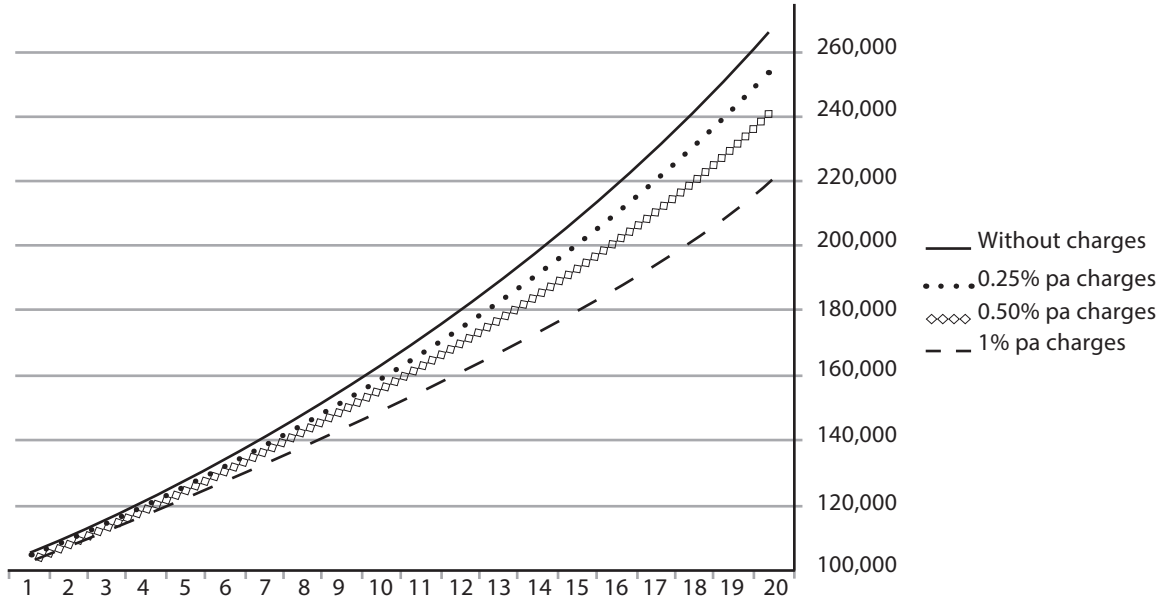
Let us assume that we have an investment portfolio that grows in value from a starting value of $100,000 over a period of 20 years assuming an average growth rate of 5% and we then adjust the end value by reducing the annual rate of growth to show the effect of charges of 0.25%, 0.50 and 1.00%.

Using future value calculations, we can see that the returns are:

At an annual growth rate of 5% without charges	100,000 x 1.05^{20} = 265,330
At an annual growth rate of 4.75% after deducting 0.25% pa charges	100,000 x 1.0475^{20} = 252,977
At an annual growth rate of 4.5% after deducting 0.5% pa charges	100,000 x 1.045^{20} = 241,171
At an annual growth rate of 4% after deducting 1% pa charges	100,000 x 1.04^{20} = 219,115

The following graph shows a simple illustration of this effect.

Impact of Fees on Investment Returns



The graph illustrates the importance of assessing the level of fees between competing funds. Over time, even small fee differences can have an impact on fund returns.

When comparing expense ratios, it is important to compare funds that own similar types of investments. It would not be useful to compare the expense ratio on an emerging market fund to that of a US large-cap fund. It would, however, be appropriate to compare the expense ratio of one emerging market fund to that of another.

Active funds generally have higher initial and annual management charges than passive funds, while open-end funds generally have higher charges than closed-end funds.

What constitutes a 'good' expense ratio will vary depending on the country and the investment strategy, but an investment manager should aim to identify what average rates are in the areas in which they aiming to invest. In the US, for example, the Investment Company Institute reports that in 2022, average expense ratios were 0.44% for equity mutual funds, 0.37% for bond funds, and 0.13% for money market funds, but by 2024, the average expenses ratios were 0.40%, 0.38% and 0.22% respectively.

Reduction in Yield

Reduction in yield is another term that investment managers may encounter, particularly when making investment recommendations to clients where there is a higher level of overall fees and costs to their existing portfolio in order to explain and highlight the impact of charges as part of a suitability report or other recommendations.

Reduction in yield (RIY) is a life assurance industry standard figure given to show how total charges will affect the growth rate of a particular fund and so is similar to an expense ratio but with differences.

- Total expense ratio (TER) is a disclosure measure used to show how much of an investment in a mutual fund goes towards fees and costs. TER is backward looking in that it shows past expenses as a percentage of your investment.
- RIY, on the other hand, is a forward-looking disclosure measure. Its aim is to express the various charges on a policy as a percentage of the annual return that will be achieved on the underlying assets. The RIY will show the policyholder how much of the gross yield (total return) is sacrificed to cover all the expenses charged against the policy.

In order to calculate the RIY certain assumptions have to be made. These include:

- the expected future return
- that the expenses to be charged remain the same, and
- there are no extraordinary charges that could be charged to the product, like a switching fee, where the investor has the right to switch between portfolios.

The advantage of the RIY is that it allows charges to be reflected as a single amount. Its main drawback is that it relies on assumptions of future experiences, most notably the investment return.

Sharpe Ratio

The Sharpe ratio is a risk-adjusted measure of return that is widely quoted for investment funds. It is calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe ratio, the better the fund´s historical risk-adjusted performance. The Sharpe ratio is calculated for the past 36-month period by dividing a fund´s excess returns by the standard deviation of a fund´s excess returns. The ratio can be used to compare two funds directly on how much risk a fund had to bear to earn excess return over the risk-free rate.

R-Squared

R-squared is a measure of the percentage of a fund´s movement that can be accounted for by changes in its benchmark index. An R-squared of 100 indicates that a fund´s movements are perfectly correlated with its benchmark and so, for example, an index funds typically could have an R-squared close to 100.

Synthetic Risk-Reward Ratios

We have already seen the synthetic risk-reward ratio in chapter 3 when we looked at investment funds. It is meant to give an indication of the level of risk that a fund poses based on its historic volatility. It is a measure used for European funds whose objective is to enable investors to compare all investment funds on the same scale of risk, irrespective of the fund's country of origin.

2.6 Investment Management Services

Learning Objective

7.2.5 Know the characteristics, uses, benefits, risks and charges associated with wrap and other platforms

There are a range of potential investment solutions to choose from that can cater for different types of clients, including:

- a preferred fund panel for clients who want execution-only services
- a portfolio of low-cost mutual funds for clients with modest asset levels who required a low-cost ongoing service
- a model portfolio service for clients with a higher level of assets and investment experience, where the additional costs are appropriate, or
- a discretionary fund management for clients who required bespoke investment management solutions.

There are other solutions but as a generalisation they all fall essentially within two types of structure:

- **Investment funds** – where the client invests directly in mutual funds or managed solutions such as multi-asset and **fund of funds**.
- **Discretionary management** – where a portfolio is managed on behalf of the client by a discretionary investment manager on a model portfolio basis or as a bespoke service.

Within these two categorisations there are a wide variety of different services and products, and it is important to understand the differences in order to be able to identify the right solution for a client.

2.6.1 Fund Investment Portfolios

The essential characteristic of this type of investment services is the use of investment funds to achieve a diversified portfolio of assets. They may use mutual funds or any of the other types of investment fund such as closed-end funds, absolute return funds or hedge funds.

In analysing such services, differentiating factors that should be considered include whether:

- the approach is return focused or risk targeted
- it involves management of a portfolio or the use of a multi-manager type solution
- it uses only traditional asset classes or also includes alternative assets, and

- the level of asset and geographic diversification and whether the investment approach is active management, passive management, or a blend of the two.

Return-Focused and Risk-Targeted Funds

Many investment firms run model portfolios of investment funds that are targeted at different investment objectives such as growth, balanced or income. These are regularly monitored and adjusted depending on market movements and fund manager changes. The approach is return focused and aims to meet or exceed a benchmark target.

Risk-targeted funds are now becoming increasingly common. The concept is to maximise returns but only by taking on a certain level of risk within pre-defined volatility bands. Once a client's risk profile has been agreed a model portfolio is selected that is designed to provide and maintain a suitable combination of asset classes and funds that deviate little from the agreed risk parameters. The fund's aim is to ensure the asset mix within the fund continues to meet the risk profile and does not simply aspire to beat a sector average performance.

Both approaches often take subtly different paths to achieving their goals and it is important to understand the investment style and risk management controls used in order to analyse which approach would be suitable for a client.

As a generalisation, the constraints imposed on risk-targeted funds could make it difficult for the fund to outperform its benchmark and so significant outperformance should not be expected.

Model Portfolios and Multi Manager Funds

An investment firm may construct and manage model portfolios of funds itself or outsource the investment activity by using a multi-manager solution.

The term 'multi-manager' encompasses a wide range of funds that have different investment objectives and different methods of achieving them. Within this approach, there are two main avenues:

- **Fund of funds** – assets are invested in other collective funds to utilise the expertise of specialist managers in each asset class.
- **Manager of manager** – assets are managed by specialist managers in each asset class on a segregated basis as mandated by the multimanager fund manager.

In analysing such funds, it is important to understand whether they are fettered or unfettered, the types of assets they will invest in and whether they are return focused or risk targeted.

A fund of funds approach can be either fettered which means that it only invests in funds managed by the same group or unfettered where it may invest in any fund and fund management group it chooses. Advocates of unfettered funds argue that they achieve a much wider degree of diversification and therefore potential return, while fettered funds claim lower costs, reduced elements of double charging and a deeper understanding of the funds they are investing in. There are very good funds in both categories.

When analysing multi-manager funds, it is also important to understand the composition of the underlying portfolio. Many funds will invest only in traditional assets, while others will adopt a more multi-asset approach, investing in commodities and hedge funds for example. It is important that advisers understand the component parts of each fund as these could expose investors to different types of risk. The investment style adopted may see active only funds used, passive only funds used or a blend of the two.

Equally, it is important to know whether the fund is return focused, and if so, what benchmark it uses or risk it targets and the extent to which this will impact on returns.

2.6.2 Discretionary Investment Management

Discretionary investment management services vary widely and range from managed portfolios at the lower value end of the market to bespoke portfolios that are tailored to the individual client at the other end.

Model or managed portfolios are standardised portfolios designed around a range of investment objectives and risk approaches that can be matched to a client's own objectives and risk profile. Typically, they are constructed of a mix of direct holdings and investment funds and are managed centrally in line with the portfolio's investment objective. They are designed to appeal to a wider audience but will usually come without the range of services found in bespoke investment management.

Bespoke portfolio management is the traditional service offered by private banks, wealth managers, stockbrokers and private client investment managers. This involves constructing and managing a portfolio around the specific needs of a client and can be managed on a discretionary or advisory basis.

- Discretionary management is where the client gives discretion to the investment firm to manage their investments on their behalf. The investment manager manages the portfolio and makes changes to the portfolio without referring to the client, but within the constraints of the client's investment objectives and the investment strategy that has been agreed with them.
- Advisory management is a service offered by investment managers which recognises that some clients do not want to give up the decision-making and want to remain actively involved in the management of the portfolio. An investment manager will consider what changes might be made to their portfolio but then discusses why those changes are needed with the client who will then decide whether to accept the advice or not.

Bespoke portfolio management will utilise a range of asset types from traditional asset classes to alternatives. The minimum portfolio size for a bespoke service is quite high and is often banded so that the wealthiest investors receive the highest service levels.

Some of the characteristics of bespoke investment management are as follows:

- The investment mandate is agreed with the client with scope for increasing levels of customisation for higher amounts.
- An investment manager will be appointed to manage the portfolio and the client will often have direct access to the investment manager as well as their relationship manager (if the two roles are separated).

- Both traditional and alternative asset classes will be used and existing assets can be incorporated into the portfolio and large holdings managed separately.
- Charges will usually be by negotiation and dependent on the level of service provided.
- Reporting will be sophisticated and detailed with performance reporting and analysis.

2.6.3 Wraps and Platforms

Fund Supermarkets

Fund supermarkets are internet-based one-stop shops for retail investment funds. Originating in the US in 1992, they have proved extremely popular elsewhere since their inception. Most fund supermarkets enable both retail investors and financial advisers to deal in a wide range of investment funds managed by different product providers from one source with the supermarket facilitating the placing of deals and looking after all of the associated administration.

However, some supermarkets only cater exclusively for either financial advisers or retail investors. Many have also begun to emulate their US counterparts in adding a range of product wrappers within which these funds may be held, as well as the provision of interactive research and trading tools.

Fund supermarkets provide the following benefits:

- For investors – supplying them with consolidated records and statements of their investment fund holdings.
- For financial advisers – reducing the time spent negotiating discounts on charges with product providers, placing deals and the subsequent administration so that they may spend more time advising clients.
- For product providers – simplifying both their dealing administration and record-keeping, as all records are held by the supermarket.

Wrap Platforms

A wrap is similar to a fund supermarket in many ways but was designed initially for the use of advisers to view and administer their clients' investment portfolios.

Where fund supermarkets tend to offer wide ranges of mutual funds, wraps often offer greater access to other products too, such as pension plans and insurance bonds. Wrap accounts enable advisers to take a holistic view of the various assets that a client has in a variety of accounts. Advisers also benefit from using wrap accounts to simplify and bring some level of automation to their back office using internet technology.

They also offer a range of tools which allow advisers to see and analyse a client's overall portfolio and to choose products for them. As well as providing facilities for investments to be bought and sold, platforms generally arrange custody for clients' assets.

2.6.4 Disclosure of Charges

Whenever a firm conducts investment business, it must make the client aware of the costs so that they are better able to make informed choices.

It has to do so in writing and before it conducts any business. It must also disclose any product-related charges and any commissions it may receive from a product provider. For packaged products, this is usually included within a key features document that is required to be provided to the customer.

The information to be supplied includes:

- The total price to be paid including all related fees, commissions, charges and expenses and any taxes payable via the firm.
- If these cannot be indicated at the time, the basis on which they will be calculated so that the client can verify them.
- The commissions charged should be itemised separately.
- If any costs or charges are payable in a foreign currency, what the currency is and the conversion rates and costs.
- If other costs and taxes not imposed by the firm could be payable, how they will be paid or levied.

3. Investment Planning and Recommendations

Learning Objective

7.3.1 Know the affordability, appropriateness and suitability of recommendations based on the following criteria: product provider quality; investment risk and performance; quality of administrative/client service; impact of new solutions on existing arrangements; range of solutions available to suit different circumstances; range of criteria for matching solutions to client needs and demands; rationale for discounting potential alternative solutions

7.3.2 Be able to apply a strategy and rationale that will meet the client's objectives: highlight the pertinent issues and priorities; formulate a plan to deal with them; offer proposals to achieve these objectives; explain clearly the relative merits and drawbacks of each proposal and combination thereof; agree a strategy that the client understands and accepts

7.3.3 Understand the factors which influence the way in which recommendations are presented and received

7.3.4 Know a clients' understanding of recommendations

7.3.5 Be able to apply consumer rights and the regulatory requirements to the provision of investment advice

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The end product of the process of collecting client information, analysis and prioritisation are the investment recommendations themselves and due diligence checks to ensure that the advice is suitable.

3.1 Regulatory Requirements for Suitability

Regulatory requirements focus heavily on the due diligence and suitability process that investment management firms undertake to ensure that their recommendations are consistent with the client's needs and risk profile.

3.1.1 Client Facts and Understanding

Firms are required by regulators to have regard for the information needs of their clients, taking into account the client's level of sophistication and experience.

Investment management firms should establish, implement and maintain adequate policies and procedures to enable them to understand the essential facts and characteristics about their clients. They should ensure that the assessment of information collected about their clients is done in a consistent way irrespective of the means used to collect such information.

When designing the questionnaires aimed at collecting information about their clients for the purpose of a suitability assessment firms should be aware and consider the most common reasons why investors could fail to answer questionnaires correctly. In particular:

- Attention should be given to the clarity, exhaustiveness and comprehensibility of the questionnaire, avoiding misleading, confusing, imprecise and excessively technical language.
- The layout should be carefully elaborated and should avoid orienting investors' choices.
- Collecting information on a series of items through a single question, particularly when assessing knowledge and experience and risk tolerance should be avoided.
- Firms should carefully consider the order in which they ask questions in order to collect information in an effective manner.
- In order to be able to ensure necessary information is collected, the possibility not to reply should generally not be available in questionnaires particularly when collecting information on the investor's financial situation.

Firms should also take reasonable steps to assess the client's understanding of investment risk as well as the relationship between risk and return on investments, as this is key to enable firms to act in accordance with the client's best interest when conducting the suitability assessment. When presenting questions in this regard, firms should explain clearly and simply that the purpose of answering them is to help assess clients' attitude to risk (risk profile) and, therefore, the types of financial instruments (and risks attached to them) that are suitable for them.

An adviser should not recommend a transaction or act as an investment manager for a customer, unless they have taken reasonable steps to help the customer understand the nature of the risks involved. In particular, if highly risky investments are involved, specific risk warnings are required; the same applies to investments that are not readily realisable. The adviser should also explain any likely difficulties in establishing a market price.

It is also important that firms appraise the client's understanding of basic financial notions such as investment risk and risk-return trade off. To this end, firms should consider using indicative, comprehensible examples of the levels of loss/return that may arise depending on the level of risk taken and should assess the client's response to such scenarios.

3.1.2 Suitability Assessment

Investment managers should inform their clients clearly and simply about the suitability assessment that they will undertake and its purpose which is to enable the firm to act in the client's best interest. This should include a clear explanation that it is the firm's responsibility to conduct the assessment, so that

clients understand the reason why they are asked to provide certain information and the importance that such information is up-to-date, accurate and complete.

The information provided about the suitability assessment should help clients understand the purpose of the requirements. It should encourage them to provide accurate and sufficient information about their knowledge, experience, financial situation (including their ability to bear losses), and investment objectives (including their risk tolerance). Wealth managers should highlight to their clients that it is important to gather complete and accurate information so that the firm can recommend suitable products or services for the client. Without this information, firms cannot provide investment advice and portfolio management services to clients.

Firms should avoid stating, or giving the impression, that it is the client who decides on the suitability of the investment, or that it is the client who establishes which financial instruments fit their own risk profile. For example, firms should avoid indicating to the client that a certain financial instrument is the one that the client chose as being suitable, or requiring the client to confirm that an instrument or service is suitable.

In order to match clients with suitable investments, firms should have procedures in place to ensure:

- All available information about the client necessary to assess whether an investment is suitable, including the client's current portfolio of investments and asset allocation within that portfolio.
- All material characteristics of the investments are considered in the suitability assessment, including all relevant risks and any direct or indirect costs to the client.
- The advice and portfolio management services provided to the client take account of an appropriate degree of risk diversification.
- The client has an adequate understanding of the relationship between risk and return, of the incidence of time horizon on this relationship and of the impact of costs on their investments.
- Ensure that the financial situation of the client can finance the investments and the client can bear any possible losses resulting from the investments.
- Any illiquid product recommendation takes into account the length of time for which the client is prepared to hold the investment.
- Any conflicts of interest are prevented from impacting the suitability assessment.

An adviser needs to be able to analyse a wide range of potentially suitable investment products, taking account of the investor's existing arrangements. Depending on the terms of their engagement, they are likely to need to take a comprehensive approach in arriving at the proposed solutions. The client's needs and demands should be considered in order to match possible appropriate solutions to these needs and demands, in the light of the features of the various investment alternatives. It is not necessarily the case that only one possible solution should be recommended. There may be a number of feasible solutions that can be discussed with the client.

3.1.3 Other Regulatory Requirements

As part of the rules set by financial services regulators, financial advisers – and the providers of the products recommended – are required to communicate information to a customer in a way which is clear, fair and not misleading. They must also communicate in a way which has regard for the customer's knowledge of business. This implies that firms should be considering their customers' level of financial

sophistication, tailoring the language they use accordingly, and ensuring that any matters that may need explanation are made clear.

There are specific and detailed rules in connection with:

- **Financial promotions** – these refer to communications that are or may be inducements to clients to enter into investment business. The intention is to ensure that promotions are fair and not misleading, and that their target audience receives clear and adequate information which is appropriate to its level of understanding. Particular care should be taken when forecasting future results, making assumptions or generating simulations based on past performance. Different regulatory regimes will delineate specific rules in this area. For example, in Kuwait, any past performance information included in promotional or marketing material must be a fair representation of the past performance, may not exaggerate the performance, and needs to be based on verifiable information. The source of the information must always be included.
- **Status disclosure** – firms must tell clients and potential clients about their status (eg, whether they are independent or tied to a particular product provider) and the way in which they are remunerated.
- **Terms of business and client agreements** – there are rules on when firms must provide their clients with their terms of business and what these must contain.
- Know your client (KYC) – regulators require that financial advisers ensure that they have found out enough about their customer to ensure that their advice is appropriate to their circumstances.
- **Execution-only transactions** – refers to a transaction or account when no advice is given, and the provider exercises no discretion. The client makes their own decisions as to what transactions are to be undertaken and instructs the provider to put them into effect. There are various differences between the regulatory regime for this type of business and for business when the provider gives advice or exercises discretion.
- **Charges, commissions and product disclosure** – advisers have to disclose a considerable amount of information about the way in which they are paid.
- **Cancellation and cooling off** – in certain circumstances, customers who are entering into an investment arrangement are entitled to a period of reflection during which they can decide whether or not to proceed with their purchase. If a right to cancel is provided to a customer, the firm must give a clear and prominent notice in writing, either before or, if not possible, immediately after the sale. If the customer exercises their right to cancel, the effect is that they withdraw from the contract, which is then terminated.

3.2 Recommendations and Due Diligence

Rules on suitability apply when firms make investment recommendations and when they manage investments. These rules exist to ensure that firms take all reasonable steps to see that recommendations or decisions to trade are suitable for the client.

The circumstances of every individual are unique and it is essential that an adviser considers which investment solutions are appropriate to meet the varying needs of a client before making any recommendations. Specifically, the adviser has to be able to justify each recommendation by explaining any advantages and disadvantages of each. Any relationship or correlation between products or services must also be fully explored and explained.

Regulatory guidance requires that a firm must act in the customer's best interests and take reasonable steps to ensure that any investment selection (including the underlying asset-allocation) is suitable.

Suitability depends on a number of factors, including the risk the customer is willing and able to take. An investment selection that fails to take account of all relevant factors may be unsuitable.

Investment Selection and Key Risks

Poor outcomes can occur if firms, in particular:

- Do not take appropriate account of all aspects of a customer's investment objectives and financial situation (including the risk they are willing and able to take) as well as their knowledge and experience.
- Fail to challenge cases where automatically generated investment selections (for example, from model portfolios or asset-allocation tools) are unsuitable for individual customers.
- Fail to ensure recommendations or transactions are consistent with the risk description confirmed with the customer.
- Rely solely on volatility as a proxy for risk.
- Do not recognise the importance of considering diversification.
- Fail to understand the nature and risks of products or assets selected for clients.

3.2.1 Client Understanding

An investment manager must be able to fully explain to the client, in a way that the client will understand, how each recommendation meets the identified financial goals and objectives of the client. If a recommendation requires the use of a particular product, then any options need to be fully described and the relative advantages and disadvantages of any alternatives pointed out.

The manager needs to justify how any recommendations meet the client's specific circumstances and explain the recommendations in a manner the client can understand, including, for example:

- characteristics, correlation, advantages and disadvantages of different products
- economic context of the advice and significance of main **economic indicators**
- interrelationship in estate planning between wills, trusts, protection, and of retirement with investment planning
- explanation of appropriate financial protection products to clients and how they meet client needs.
- comparison of the different options available
- explanation of when a previously agreed action is no longer beneficial to the client
- advantages and disadvantages of the proposed approaches
- how the action takes account of future needs, and
- how the action will be handled, including the need for monitoring and review.

Investment, retirement and protection planning must also be done in the context of the wider economic environment. The economic climate and economic projections may impact the solutions chosen and explaining the rationale for this to the client also maximises the end result. If, due to unforeseen circumstances, it does not, a clear rationale for any recommendations made will allow the client to still appreciate that the recommendations were made with their interests in mind. The integrity of the adviser and of the advice given is of the greatest importance to the issue of client trust, so it must be made very clear to any client why and how any recommendations suit their specific requirements.

3.2.2 Assumptions

In analysing the client's financial position and calculating expected outcomes or shortfalls and any requirements for additional provisions, calculations will need to be carried out taking account of the current position as well as external factors which may impact on outcomes in the future.

A number of assumptions may need to be made when performing these calculations. Such assumptions could include:

- assumed rates of return
- future inflation rates
- future expenditure patterns
- rate of earnings increases
- school and university fee increases
- annuity and/or pension drawdown rates
- future tax rates
- life expectancy, and
- future social security benefits.

This list is by no means exclusive, but where assumptions are made, these should be recorded in the financial plan. Some assumptions may have been agreed with the client during the client meeting or the adviser may use a standard set of assumptions – again, these assumptions should be recorded in the financial plan so that all parties can clearly see the assumptions that have been used and on which the recommendations are based. Many assumptions are likely to change over time and all assumptions should be justified, showing why the assumption is reasoned, reasonable and relevant to the client's financial plan.

3.2.3 Due Diligence

Regulatory rules do not prescribe a methodology that firms must adopt in making investment selections. However, firms must have a robust process that ensures that all relevant suitability factors are properly taken into account.

Robust research and due diligence form part of a wider range of requirements which, together, combine to ensure firms deliver good client outcomes. These include:

- **Competence** – the advisory firm must ensure its advisers are adequately competent on the subject of the product or service concerned. Advisers are required to be competent in the regulated activities they undertake, such as advising on investments.
- **Research and due diligence** – this refers to the process carried out by the firm to assess the nature of the investment, its risks and benefits and the provider (to establish whether they believe it appropriate to entrust the provider with client assets). The firm needs to understand these factors in order to judge whether the solution is suitable.
- **Assessing suitability** – once advisers are confident in the nature of the investments and understand the individual product or service, they should be able to judge for each client if the solution is suitable.

What constitutes a reasonable level of research and due diligence will differ depending on the adviser's recommendation and the needs of the client. Although the objective of research and due diligence is the same across different investments, services and providers, there will be differences in the time and effort taken to achieve it. For example, it will usually take less time to assess a product from a familiar provider investing in familiar assets and longer when considering unfamiliar assets.

At times, advisers may need to refer a client to a specialist to obtain advice they cannot offer. This could be for financial planning advice, for example pension transfer advice or for advice from another profession for example a tax adviser or a solicitor. It is important that all of those involved in advising a client to do so in a collaborative manner to ensure the client is receiving the correct advice. For example, a solicitor could create a discretionary trust deed, a financial planner could manage the assets within the trust and a tax adviser could advise on the tax charges of the trust.

3.2.4 Assessing Suitability

In order to assess the suitability of an investment decision for any particular client, the adviser should look at three different elements concerning that client, including:

- knowledge and experience in the investment field relevant to the specific type of designated investment or service
- financial situation, and
- investment objectives.

Knowledge and Experience		**Financial Situation**		**Investment Objectives**
Experience and knowledge to understand risks in the transactions or management of the portfolio	+	Ability to financially bear any related investment risks consistent with investment objectives	+	Preferences regarding risk taking, to hold investment, risk profile, and purpose of investment

The extent of information collected to do this may vary. In determining what information is necessary and relevant, investment firms should consider, in relation to a client's knowledge and experience, financial situation and investment objectives:

- the type of the financial instrument or transaction that the firm may recommend or enter into including the complexity and level of risk
- the nature and extent of the service that the firm may provide, and
- the nature, needs and circumstances of the client.

An example of the extent of client information needed taken from the UK regulator is shown below.

Regulatory Guidance on Extent of Client Information Needed

- When providing access to complex or risky financial instruments, firms should collect more in-depth information so they can assess the client's capacity to understand, and financially bear, the risks associated with such instruments.
- For illiquid instruments, details of the length of time that the client will hold the investment is needed along with such additional information about the client's financial situation necessary to ensure whether the client's financial situation allows them to invest or be invested in such instruments.
- The information collected should take account of the services provided. With discretionary investment management, for example, the level of knowledge may be less detailed than for advisory investment management. Nevertheless, the client should at least understand the overall risks of the portfolio and possess a general understanding of the risks linked to each type of financial instrument that can be included in the portfolio. Firms should gain a very clear understanding and knowledge of the investment profile of the client.
- More information should be collected when advice is being provided on a client's entire financial position than where only specific advice is provided. More in-depth information would also need to be collected for older and potentially vulnerable clients asking for investment advice services for the first time.

While the extent of the information to be collected may vary, the standard for ensuring that a recommendation or an investment made on the client's behalf is suitable for the client will always remain the same.

As part of this, firms should obtain from the customer such information as is necessary to understand the essential facts about them and have a reasonable basis for believing that:

- Their recommendations meet the customer's investment objectives.
- The customer is financially able to bear any related investment risks consistent with their investment objectives.
- The customer has the necessary experience and knowledge in order to understand the risks involved in the transaction or in the management of their portfolio.

Failure to obtain all the relevant information or evaluate it properly can lead to the recommended transaction or decision to trade being unsuitable for the client.

3.3 Presenting Recommendations

Most advisers present their recommendations in the form of a report. In order to make it easier for clients to fully understand these, best practice is to present an outline of the client's circumstances and needs with a summary of the recommendations, followed by more detailed sections on risk profile, asset allocation and investment and wrapper selection.

A formal written report can put the products recommended into the context of the client's circumstances and objectives. This is similar to the investment policy statement (IPS) referred to earlier, but focused

more narrowly onto investment management rather than the wider financial affairs of the client. There is no single correct way to construct a report, but its likely contents are shown in the following table:

Financial Plan	
Cover page	This covers what the document is, who it is for, when it was prepared and completed (and who by). It may also state the tax year or rates used.
Contents page	This should list the main headings of the document and relevant page numbers of each section to ease reference. It should also include a list of the appendices.
Introduction	A note on the structure and purpose of the plan and how the plan has come about.
Objectives and priorities	A statement of the client's objectives and priorities, indicating which areas the client has asked you to consider and which other areas will be addressed in your next meeting, where relevant.
Assumptions	A statement of the assumptions used in the financial plan, along with justification for those assumptions (where the justifications are lengthy, these may be placed in the appendices).
Attitudes	An explanation of the agreed risk profile and statements regarding the client's attitudes to mortality, morbidity, investment risk and any other relevant attitudinal data.
Assets and liabilities	A summary of the client's assets and liabilities with comments where appropriate.
Income and expenditure	A summary of the client's net income and expenditure to establish a net spendable income figure with comments if appropriate.
Recommendations	Areas chosen for recommendation should have their own section, including: • current position • objectives • assumptions (if not already covered) • recommendations • summary, and • action points.
Other issues	This states the other areas you have identified, but for which you did not include recommendations. Lists each area and what needs to be addressed and states how, and when, they will be addressed with the client.
Summary of recommendations	This should include a summary of all recommendations made (including costs where relevant) and provide an action plan, summarising all the action points from the various areas of the plan. It should include information on what happens next, who is responsible for completing each action and the timescales for completion.

Financial Plan	
Reviews	This includes information on the purpose and importance of reviews. Recommends an approach to reviews, including timescales and how, and when, the review will be initiated (ie, you will write to them to let them know how far in advance you will do this).
Appendices	It is important that a financial plan is easily digestible by the client, and you should consider placing any information that may break the flow or complicate the main body of the financial plan in the appendices.

As well as the financial plan itself, the investment manager might need to provide a client with:

- a client agreement
- suitability reports
- product information
- key features documents, and
- illustrations.

It should also include any specific risk warnings.

As well as making investment recommendations, the report may well provide a holistic view of the client's position and will, therefore, include investment, retirement and protection recommendations. It will also be accompanied by appropriate product quotations, illustrations and brochures.

Appendices

This is a useful section of the financial plan to hold detail that the client does not immediately need to be able to understand the recommendations made. It should form a part of the financial plan, however, in case they want to know more or need to see how figures included in the main body of the financial plan have been derived.

Reference should be made in the main body of the financial plan to any information placed in the appendices, so that the client knows where to look for it. The appendices might include things such as:

- the client's full risk profile
- net worth statements
- income and expenditure calculations
- tax calculations
- calculations for specific areas of recommendations
- interview notes, and
- client questionnaire.

If too much information is placed in the appendices, the client may be forever flicking back and forth within the financial plan, and this is likely to break the flow of the plan. However, if too much information is placed in the main body of the financial plan, the client may suffer from 'information overload' and lose interest.

It is also recommended as a matter of good practice that any client data used is included as the basis of the plan in an appendix.

Clear and Understandable Reports

A report can be lengthy and, although there is no right or wrong length, an adviser should aim for clarity. It should aim to make recommendations and explain simply and clearly why the recommended transaction or product is suitable for the client, in light of their:

- financial situation
- knowledge and experience
- investment objectives, and
- attitude to risk both in general terms and to the specific area of need and recommendation.

Many people find reading about financial matters unfamiliar and difficult. It is, therefore, important to make sure that the report is attractive and easy to read, paying particular attention to the following points:

Clear and Understandable Reports	
Logical structure	The client will find it much easier to read the report if it follows a logical order and structure.
Economy of length	There can be a substantial amount of information to convey in a report to a client. If it appears that the report is becoming overwhelming because of its length, it is worth re-examining the contents to revisit the structure and order of material and whether it is written in a concise style.
Accessible language	It is essential that reports should be written in language that clients will understand and find easy to read. Most people find it easier to read short sentences and reasonably short paragraphs. They also respond to diagrams and graphs, which help them to understand the recommendations being made.
Attractive layout	The way that a report is laid out helps to make it easier to read and, therefore, more effective in conveying the relevant information and recommendations to clients.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. How does investment time horizon affect investment selection?
   Answer reference: Section 1.1.2

2. What purpose does an investment policy statement serve?
   Answer reference: Section 1.2

3. Why is it important to understand the investment powers of a trust or a charity?
   Answer reference: Section 1.3 and 1.4

4. Stochastic modelling is an example of which type of approach used to determine an asset allocation strategy?
   Answer reference: Section 2.1.3

5. What risks should be taken into account when assessing a money market fund?
   Answer reference: Section 2.2.4

6. What factors should be taken into account when assessing a bond fund?
   Answer reference: Sections 2.3.6

7. What is a major drawback of the value investment style?
   Answer reference: Section 2.4.7

8. Sector rotation is an example of which fund management style?
   Answer reference: Section 2.4.7

9. How does an investment fund's investment philosophy and process impact how it invests?
   Answer reference: Section 2.5

10. How can you ensure a client's suitability report is clear and understandable?
    Answer reference: Section 3.3

Chapter Eight

Portfolio Evaluation, Maintenance and Review

1. **Portfolio Evaluation** **539**
2. **Portfolio Performance Analysis** **561**
3. **Portfolio Review and Maintenance** **586**

This syllabus area will provide approximately 8 of the 80 examination questions

Portfolio evaluation is concerned with determining how an investment portfolio performed and goes beyond pure measurement of the return to provide some context in which to judge that performance. In this chapter, we look at the construction of major indices, the characteristics of investment benchmarks and the calculation and evaluation of investment performance.

1. Portfolio Evaluation

1.1 Purposes of Portfolio Evaluation

Learning Objective

8.1.1 Understand the purposes and limitations of portfolio evaluation

Performance evaluation is the measurement and assessment of outcomes of investment decisions taken by management in an investment process. There are a large number of techniques applied to institutional investor portfolios; some of these are also applied in private wealth management.

Performance measurement focuses on the determination and accuracy of return measures, while performance evaluation builds on this by specifying an appropriate benchmark, against which the ex-post returns are compared.

The evaluation of portfolio performance is important for several reasons. Firstly, the investor, whose funds have been invested in the portfolio, needs to know the relative performance of the portfolio. The performance review must generate and provide information that will help the investor to assess any need for rebalancing of their investments. Secondly, the investor needs this information to evaluate the performance of the manager of the portfolio and to determine the manager's compensation, if that is tied to the portfolio performance.

Unlike simply determining returns, performance evaluation is a relative concept and requires comparison against a benchmark. Thus, absolute returns by themselves do not have any significance. For example, if one fund manager returns 10% per annum on their bond fund and another returns 20% on an equity fund, who is the better manager? Now consider your interpretation of the two managers' performances in relative terms if you were told that a comparable benchmark bond index returned 8%, while an equity benchmark index returned 25%. Clearly, in this case, the bond manager has outperformed the benchmark, but the equity manager has underperformed their comparable market index. Any meaningful evaluation exercise will, therefore, need to have a suitable benchmark specified.

Performance evaluation methods generally fall into two categories, namely conventional and risk-adjusted methods which we will consider in later sections.

1.2 Index Construction

Learning Objective

8.1.3 Understand the construction, segmentation and weighting methods of the main bond and equity indices, including: Australia S&P ASX; China SSE index; Dow Jones Industrial Average Index; FTSE 100 & All-share indices; FTSE Actuaries Government Securities Indices; FTSE All-World Index Series; Hang Seng Index; MSCI World Indices; Nikkei 225; S&P 500 Index

The overall performance of the stock market is usually tracked and reflected in the performance of various stock market indices. Stock indices are composed of a selection of stocks that is designed to reflect how stocks are performing overall or how the value of specific groups of stocks is performing. Indices can provide a quick snapshot to see how a specific group of stocks performs compared to other groups of stocks.

An index can be composed of equities, bonds, commodities or any combination of asset classes. The index is a set of securities that have been aggregated based on set criteria and where the ongoing composition is subject to a transparent set of rules. Indices have several functions including serving as portfolios for passive investors, a standard against which to judge the performance of actively managed portfolios and the reference point for determining the price of various derivative instruments.

If an index is to be used as a benchmark, it is important to understand how it is constructed.

1.2.1 Equity Index Calculation

Index calculation uses what is known as an index divisor.

A stock market index takes the value of the constituents of an index and converts this into a number. At a basic level this is straightforward; for a market capitalisation weighted index it is simply the total number of shares issued by a company multiplied by its price. This number, however, is normally adjusted so that only shares that are freely tradable are included – the free float adjustment. The total market capitalisation of the listed shares is then converted into the index number that you see quoted; this needs to happen as using the total market capitalisation would probably be an unwieldy number – for example, the S&P 500 float-adjusted market value is a figure in the trillions of dollars.

At the starting date for calculating an index, an arbitrary value (eg,1000) is chosen as the initial value. On that date a divisor is calculated as the sum of the market capitalisations of the index constituents divided by the initial index value.

The divisor is subsequently adjusted for any capital changes in the index constituents. For instance, when a stock is added to or deleted from an index, the index level should not jump up or drop down and so the divisor is adjusted to offset the change in market value of the index. Adjustments are also made to the divisor to eliminate the impact of corporate actions. This ensures that the index values remain comparable over time and that changes in the index level properly reflect the change in value of a portfolio of index constituents with weights the same as in the index.

We can see how this operates by looking at an example of calculating market capitalisation and how the index divisor alters for a capital change in one of its constituents. (Note: the calculation uses just five stocks as the components of the index and assumes that there is no free float adjustment to keep the example straightforward.)

Calculating a Market Capitalisation Weighted Index

For this example, we will assume that the starting values of the components of the index are as follows:

Company	Share Price	Shares in Issue	Market Capitalisation
A	40	20,000	800,000
B	35	15,000	525,000
C	20	30,000	600,000
D	25	35,000	875,000
E	15	20,000	300,000
Total Market Value			3,100,000

With this, we now set the starting value of the index which we will assume is 1000 and calculate the index divisor.

$$\text{Index divisor} = \frac{\text{Total market value}}{\text{Index value}} = \frac{3{,}100{,}000}{1{,}000} = 3{,}100$$

We can then see how the index changes by assuming that the values at the next date we are looking at are:

Company	Share Price	Shares in Issue	Market Capitalisation
A	39	20,000	780,000
B	36	15,000	540,000
C	20	30,000	600,000
D	26	35,000	910,000
E	16	20,000	320,000
Total Market Value			3,150,000

The index value at this date is:

$$\text{Index value} = \frac{\text{Total market value}}{\text{Index divisor}} = \frac{3{,}150{,}000}{3{,}100} = 1016.13$$

Next, we can see how the divisor changes by assuming that company A undertakes a corporate action that increases the number of shares in issue and that its total market capitalisation rises accordingly.

Adjusting the Divisor for an Increase in Shares

The first step is to calculate the index at the close immediately before the share increase (ie, as above):

Company	Share Price	Shares in Issue	Market Capitalisation
A	39	20,000	780,000
B	36	15,000	540,000
C	20	30,000	600,000
D	26	35,000	910,000
E	16	20,000	320,000
Total Market Value			3,150,000

As we saw, the index value at this date is:

$$\text{Index value} = \frac{\text{Total market value}}{\text{Index divisor}} = \frac{3{,}150{,}000}{3{,}100} = 1016.13$$

We then adjust the number of shares in issue for Company A.

Company	Share Price	Shares in Issue	Market Capitalisation
A	39	21,000	819,000
B	36	15,000	540,000
C	20	30,000	600,000
D	26	35,000	910,000
E	16	20,000	320,000
Total Market Value			3,189,000

We can then calculate the new divisor as:

$$\text{New index divisor} = \frac{\text{Total market value}}{\text{Index Value}} = \frac{3{,}189{,}000}{1{,}016.13} = 3{,}138.38$$

It is also useful to be aware of the term index points. The index level at any one time is the market capitalisation of its constituents so one index point is that value divided by the index which is the same as the index divisor. The index divisor can therefore be used to calculate the change in total market capitalisation as a result of a rise or fall in the index.

Calculating the Change in Value of the Market Capitalisation of an Index

Using the example above, we saw that the starting market capitalisation of the index was 3,100,000 and the index was 1,000 and that the closing market capitalisation and index value was 3,150,000 and 1016.13. Total market capitalisation rose by 50,000 and the index by 16.13 index points.

Starting market capitalisation	3,100,000	Index	1,000
Closing market capitalisation	3,150,000	Index	1,016.13
Change in value	50,000		16.13

We can use the index divisor to arrive at the same answer:

Index change x index divisor = 16.13 x 3,100 = 50,000

1.2.2 Free Float Methodology

The majority of market-capitalisation weighted indices are usually adjusted for freely available shares or its free float.

The free-float methodology includes only that proportion of a company's issued shares that are available for trading in the market. Their introduction was driven by investors who wanted to remove the distortion that 'unavailable to trade' holdings brought to global indices and the impact that had on resulting asset allocation decisions.

The float adjustment rules aim to distinguish between long-term, strategic shareholders, whose holdings are considered to not be available to the market, and shareholders who are considered more short-term in nature. It generally excludes director's holdings, government holdings, strategic holdings and other locked-in shares, which will not come to the market in the normal course of trading.

S&P 500 Float Adjusted Market Capitalisation

S&P indices analyse public information and sum all of these restricted shareholdings to come up with an investable weight factor. So, for example, if a company had a market capitalisation of US$1 billion but 25% of its issued shares were held by directors and other restricted individuals then only 75% of its shares or US$750 million would qualify for inclusion in the index calculation.

For the S&P 500, the total market capitalisation in mid-2019 was US$25,614,569.7 million but the float adjusted market capitalisation was lower at US$24,513,215.4.

The free-float method is seen as a better way of calculating market capitalisation because it provides a more accurate reflection of market movements. When using a free-float methodology, the resulting market capitalisation is smaller than what would result from a full-market capitalisation method. This is useful for performance measurement as it provides a benchmark more closely related to what money managers can actually buy.

1.2.3 Stock Market Sectors

Within each stock market, listed companies are allocated to different industries and sectors and often there are indices that track an individual or a selection of sectors, whether domestically or globally. Understanding how sectors are defined is critical to the diversification of a portfolio.

There are two competing systems for classifying companies into sectors and industries – the Global Industry Classification Standard and the Industrial Classification Benchmark. Both were designed to provide an accurate and standardised industry definition for use by the global investment community. The differences are minor, and all of the major indices have adopted one or the other as their standard.

Both of these classification systems are intended to provide an industry and sector framework that enables accurate research, portfolio management, and asset allocation. Their international scope allows for meaningful comparisons between sectors and industries worldwide. In practice, most of the same sector and industry designations exist in both standards and most major companies globally are classified under both systems.

Global Industry Classification Standard (GICS)

The Global Industry Classification Standard (GICS) is specifically designed to consistently classify companies globally in both developed and developing economies.

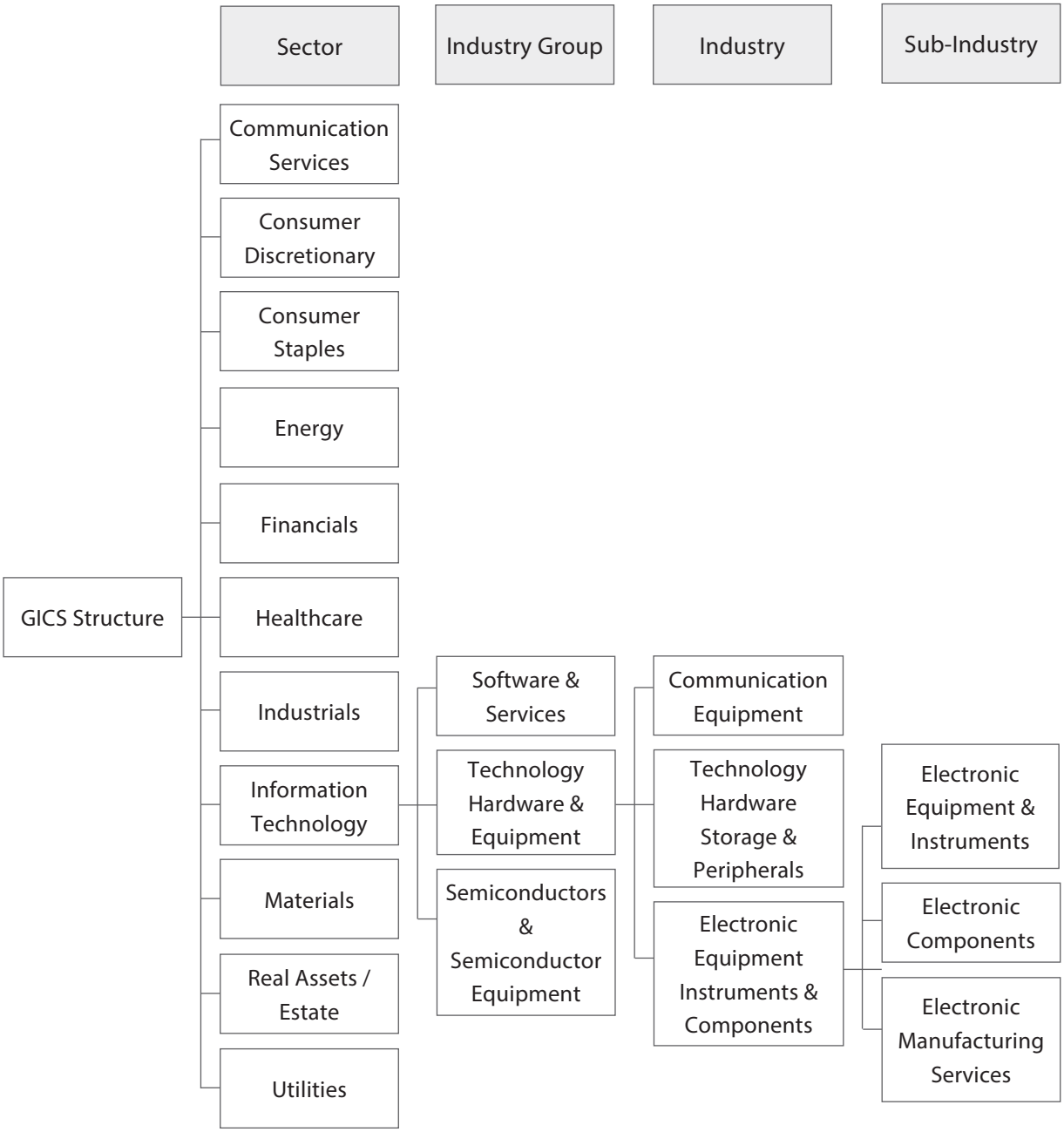
It was jointly developed in 1999 by S&P Dow Jones Indices and MSCI, two leading global index providers to establish a global standard for categorising companies into sectors and industries. GICS was developed in response to the global financial community's need for one complete, consistent set of global sector and industry definitions that enable comparisons by company, sector, and industry across countries, regions, and globally.

GICS assigns each company to a sub-industry and to a corresponding industry, industry group, and sector, according to the definition of its principal business activity. Since the classification is strictly hierarchical, at each of the four levels, a company can only belong to one grouping.

- 12 Sectors
- 25 Industry Groups
- 74 Industries
- 163 Sub-Industries.

The following table shows the 12 sectors and how this breaks down for the Information Technology Sector, which is then broken down into three industry groups, each of which is broken down into specific industries before being further subdivided into sub-industries.

GICS Sectors



A company is assigned GIC classification codes at the sub-industry levels by Standard & Poor's and MSCI according to their definition of the company's principal business. A company's main source of revenue is the most important factor in determining its principal business activity. Other factors, such as earnings analysis and market perception, are also considered.

As an example, the following table shows how some well-known companies in the S&P 500 are allocated.

Sector	Industry Group	Industry	Sub-Industry	Company
Communication Services	Media & Entertainment	Interactive Media & Services	Interactive Media & Services	Alphabet
Consumer Discretionary	Retailing	Internet & Direct Marketing Retail	Internet & Direct Marketing Retail	Amazon
Consumer Staples	Food Beverage & Tobacco	Beverages	Soft drinks	PepsiCo Inc
Financials	Banks	Banks	Diversified Banks	JP Morgan Chase & Co.
Information Technology	Technology Hardware & Equipment	Technology Hardware, Storage & Peripherals	Technology Hardware, Storage & Peripherals	Apple

Industrial Classification Benchmark (ICB)

The ICB uses a four-tier structure which currently consists of:

- 11 industries
- 20 supersectors
- 45 sectors, and
- 173 subsectors

As an example, one of the 11 industries is Financials, and it breaks down as follows:

Supersector	Sector	Subsector
Banks	Banks	Banks
Insurance	Life Insurance	Life Insurance
	Non-life Insurance	Full Line Insurance Insurance Brokers Reinsurance Property & Casualty Insurance
Financial Services	Finance and Credit Services	Consumer Lending Mortgage Finance Financial Data Providers
	Investment Banking and Brokerage Services	Diversified Financial Services Asset Managers and Custodians Investment Services
	Mortgage Retail Estate Investment Trusts	Mortgage REITs: Diversified Mortgage REITs: Commercial Mortgage REITs: Residential
	Closed End Investments	Closed End Investments
	Open End and Miscellaneous Investment Vehicles	Open End and Miscellaneous Investment Vehicles

The approach was developed jointly by Dow Jones Indexes and the FTSE Group in 2006, the ICB is now owned solely by FTSE Russell part of the London Stock Exchange Group.

The ICB system allocates each company to the subsector that most closely describes the nature of its business. When a company conducts two or more types of business that differ substantially, the predominant sector is determined by a review of the audited accounts and the directors' report. Companies may be classified on the basis of either the immediate or the end use of the product, or the industrial process used.

1.2.4 Indices and Weighting Methods

There are three main calculation methods used in the construction of a market index – price weighted, market value weighted and equal weighted.

Index Calculation	
Price Weighted	• These are constructed on the assumption that an equal number of shares are held in each of the underlying index constituents. • The index is calculated by summing the total of each constituent's share price and comparing this total to that of the base period. • However, as these equal holdings are weighted according to each constituent's share price, those constituents with a high share price relative to that of other constituents have a greater influence on the index value. • The most famous of these is the Dow Jones Industrial Average (DJIA).
Market Value Weighted	• In these indices, larger companies account for proportionately more of the index as they are weighted according to each company's market capitalisation. • The FTSE 100 is constructed on a market capitalisation weighted basis.
Equal Value Weighted	• In certain markets, the largest companies can comprise a disproportionately large weighting in the index and, therefore, an index constructed on a market capitalisation basis can give a misleading impression. • An equal weighted index assumes that equal amounts are invested in each share in the index. The **Nikkei 225** is an example of an equal weighted index.

Most of the major indices used in performance measurement are market value weighted indices such as: the S&P 500 and other S&P indices; the Morgan Stanley Capital International (MSCI) indices; and the FTSE 100 and FTSE All Share indices.

Index providers calculate many different types of indices. For example, there around 5,000 US indices and press reports suggest that there are up to 70 times more indices than public companies that are in existence.

Examples of other types of index are shown in the following table.

Other Types of Index Calculation	
Capped market capitalisation indices	• This is where single index constituents or defined groups of index constituents are confined to a maximum weight and the excess weight is distributed proportionately among the remaining index constituents. • Capped indices arise due to the need for benchmarks which comply with diversification rules. • An example of this approach is found in Saudi Arabia with the headline Tadawul All Share Index using this approach.
Total return indices	• In a total return index changes in the index level reflect both movements in stock prices and the reinvestment of dividend income. • A total return index represents the total return earned in a portfolio that tracks the underlying price index and reinvests dividend income in the overall index, not in the specific stock paying the dividend. • There are also net total return indices that take into account the tax liability on dividends or as in Australia that adjust for the tax effect of franking credits attached to cash dividends.
Style indices	• In a style index, stock's weight depends on its growth or value attribute measurements. • There are both Pure Growth Style and Pure Value Style indices.
Currency hedged indices	• A currency hedged index is designed to represent returns for those global index investment strategies that involve hedging currency risk, but not the underlying constituent risk.
Weighted return indices	• Weighted Return Indices combine the returns of two or more underlying indices using a specified set of weighting rules to create a new unique index return series.
Leveraged or inverse indices	• Leveraged Indices are designed to generate a multiple of the return of the underlying index in situations where the investor borrows funds to generate index exposure beyond their cash position. • Inverse indices are designed to provide the inverse performance of the underlying index; this represents a short position in the underlying index.

1.2.5 Stock Market Indices

The following table shows some of the world's leading equity indices, their basis of construction and some of their uses.

World Indices and their Basis of Construction		
US	**Dow Jones Industrial Average**	• The Dow Jones Industrial Average was introduced over 100 years ago in 1896 and was the first convenient benchmark for comparing individual stocks to the performance of the market or for comparing the market with other indicators of economic conditions. • It is the best-known index in the world and its 30 stocks account for close to 25% of the total US equity market. It was obviously designed in pre-computer days and as mentioned earlier it is based on a simple price-weighted arithmetic calculation making it less suitable for index products.
	S&P 500 Index	• The S&P 500 is regarded as the best indicator of the US equity markets. It focuses on the large cap segment of the US market and provides coverage of approximately 75% of US equities that trade on NYSE and NASDAQ. • It is a market-capitalisation weighted index that requires a free float of at least 50% and a minimum market capitalisation of US$4 billion. It is widely used as the basis for index products.
UK	**FTSE 100**	• The FTSE 100 is a market-capitalisation weighted index representing the performance of the 100 largest UK-domiciled blue chip companies. • It is free-float weighted to ensure that a true investable opportunity is represented within the index and screened for liquidity to ensure that the index is tradable. Capital and total return versions are available. It is reviewed and its components rebalanced every quarter in March, June, September and December. • The index represents approximately 80% of the UK's market capitalisation and is used as the basis for investment products, such as funds, derivatives and exchange-traded funds.
	FTSE All Share Index	• The FTSE All Share measures the performance of companies listed on the London Stock Exchange's main market. It covers close to 700 companies representing approximately 98% of the UK's market capitalisation. • It is a market-capitalisation weighted index and screened for size and liquidity. • It is considered to be the best performance measure for the overall London equity market and is the basis for a wide range of investment tracking products.

World Indices and their Basis of Construction		
Japan	**Nikkei 225**	• The Nikkei 225 or Nikkei Stock Average is Japan's most widely watched index of stock market activity and is the oldest and most-watched Asian index. • As mentioned above, it is an equal weighting index which is based on each constituent having an equal weighting based on a par value of 50 yen per share. Because it is an equal weighting index it needs to be rebalanced periodically. • The Nikkei 225 is designed to reflect the overall market, so there is no specific weighting of industries. The 225 components of the Nikkei Stock Average are among the most actively traded issues on the first section of the TSE.
Greater China	**SSE Index**	• The SSE Composite (also known as Shanghai Composite) Index is the most commonly used indicator to reflect SSE's market performance. • Constituents for the SSE Composite Index are all listed stocks (A shares and B shares) at the Shanghai Stock Exchange. It is a market capitalisation-weighted index.
	Hang Seng Index	• The Hang Seng Index is comprised of 50 companies of the Hong Kong stock market and is the main index in Hong Kong. The 50 companies represent about 58% of the capitalisation of the market. • It is a free float-adjusted, market capitalisation-weighted stock market index.
Australia	**ASX**	• The S&P ASX 200 is the leading index for the Australian market. The index is comprised of the 200 largest ASX listed stocks and acts as the benchmark for Australian equity performance. • It is a free float-adjusted, market capitalisation-weighted index.
World	**FTSE All World Index**	• The FTSE All-World Index is a market-capitalisation weighted index and is part of the global equity index series provided by FTSE Russell. • The index includes over 3,000 large and mid-cap securities and covers 98% of the world's investable market capitalisation.
	MSCI World Index	• The MSCI World index is a free-float-adjusted market-capitalisation weighted index that is designed to measure the equity market performance of developed markets. • The index includes securities from 24 countries and is calculated on a capital or total return basis and in both dollars and other currencies. It is the common benchmark index used for global funds.

1.2.6 Bond Indices

Due to the nature of the bond market, index construction differs somewhat from that seen for equity indices. Understanding the methodology used behind a bond index is essential if it is to be used as a portfolio benchmark and some of the important areas to identify are:

- The investment universe included in the index and the eligibility criteria used to determine whether a bond is included.
- How frequently the indices are rebalanced and how the relative weights of index-eligible securities are determined.
- How prices are sourced and validated. How securities are measured from both a return (pricing, coupon and principal payments) and a risk (duration, convexity and spread) perspective.
- How index returns are calculated and the relative weights of index-eligible securities are determined.

Eligibility Criteria

The eligibility criteria used in index construction should be clearly defined and objective to help index providers decide which securities to include and allow investors to predict which issues are eligible for a particular index.

The relevance of some of the eligibility criteria used includes:

- **Currency** – the currency used for the **denomination** of a bond and its coupon payments so that investors can choose whether there is foreign currency risk associated with the return.
- **Country, market and sector** – the risk of the country of the issuing company. For markets, whether the bond is being marketed to domestic investors only, non-local investors or offered globally in multiple markets. Sector classifications such as government, corporate or securitised and further sub-classifications such as for government related issuers whether the bond is issued by a sovereign government, a supranational, a local authority or an agency.
- **Credit rating and subordination** – the credit rating of the bond as measured by ratings agencies and whether it is investment grade (Baa3/BBB– or higher) or high yield (Ba1/BB+ or lower). The security of a bond and where it stands in the capital structure of the issuer relative to other bonds that may have senior claims or subordinated claims in a credit event.
- **Time to maturity** – the minimum time permitted to maturity of the bond for inclusion in the index.
- **Amount outstanding** – the criteria will normally assume that the larger the bond issue the more widely held it will be and therefore viewed as more liquid.

An example of index eligibility criteria is shown in the following table:

Bloomberg Barclays US Aggregate Index	
The Bloomberg Barclays US Aggregate Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market.	
Security types	The index includes Treasuries, government-related and corporate securities, MBS, ABS and CMBS
Currency	USD
Market of issue	US

Bloomberg Barclays US Aggregate Index	
Credit rating	• Securities must be rated investment grade (Baa3/BBB– or higher)
Seniority of debt	• Senior and subordinated issues are included.
Remaining term to maturity	• At least one year until final maturity
Coupon type	• Fixed rate coupons
Minimum amount outstanding	• US$300m for Treasury, government related and corporate bonds; US$1bn for MBS; US$500M for ABS and CMBS
Exemptions	• Does not include floating-rate notes, convertible bonds, CMBS, MBS, other monthly-pay, pre-payable, or inflation-indexed securities, securities specifically targeted to the retail market or securities that are not priced

Rebalancing

Many bond indices are rebalanced monthly to reflect the more frequent issue of bonds; this is unlike equity indices where rebalancing take place less frequently.

Index providers will announce an annual schedule of fixing dates at which constituents of the index are set to enable return calculations to be undertaken. On each index fixing date, publicly available securities information is used to determine index eligibility and indicative values for the following month's index profile. This process is to enable those tracking these indices to anticipate changes to index composition, providing sufficient clarity and time to put into place any consequent portfolio rebalancing.

Index providers will typically maintain two universes of securities – one on which the returns are calculated and the other that reflects the latest set of index eligible securities.

- The first is the universe of bonds included in the index – the returns universe which is set at the beginning of the month and is not reset until the beginning of the next month. This fixed universe is used to calculate daily and monthly index returns and is not adjusted for securities that become ineligible for inclusion during the month (eg, due to ratings downgrades or securities falling below one year to maturity) or for issues that are newly eligible. This means that fund managers avoid having to hit a moving target.
- The second is the projected universe and is a dynamic set of bonds that change daily to reflect the latest set of index-eligible securities. This assists active managers by providing them with the necessary insight to modify their portfolios ahead of any index changes and assists passive managers by preparing them for any executions needed ahead of monthly rebalancing.

Index Pricing

A key component of bond index construction is finding reliable price data in order to calculate index returns. The issue is that daily transaction pricing may be difficult to obtain for bonds that trade infrequently and are less liquid. Examples of possible pricing sources include:

- Transaction pricing.
- Matrix pricing.
- Dealer pricing.

Each pricing source has its advantages and drawbacks which need to be evaluated in conjunction with the type of security that is to be priced.

As bond index calculations should ensure that prices reflect the experience of the average holder in the sector, the number of sources used to determine pricing is an important consideration. For example, single source pricing may hinder index independence and skew valuations, while multiple source pricing may include some erroneous pricing data. As a result, additional checks and mechanisms are typically used for final price verification including the use of historical data to review daily yields, a review of lead dealer pricing, and the elimination of outliers.

Weighting and Aggregation

Index returns are calculated using security-level returns and weights that are reset at each index rebalancing.

The standard measure of bond return is total return, which includes the return from interest payments, security price movements and scheduled and unscheduled payments of principal. For foreign currency or multi-currency indices, a currency return (hedged or unhedged) is calculated for bonds denominated in a currency different than the base reporting currency of the index.

The standard methodology used to weight security-level returns within a benchmark is market value weighting. Under this approach, the weight of each index-eligible security is calculated at the beginning of each monthly reporting period based on its price, accrued interest and par amount outstanding.

Other weighting schemes are also available. One of the reasons for choosing an alternative index design is the risk profile of a market value weighted benchmark. Investors concerned with concentration risk or those who believe it is counterintuitive to assign a higher weight to more indebted issuers may use an advanced index design that uses or incorporates fundamental factors (instead of outstanding debt) to determine index allocations. Capped indices apply strict exposure limits to issuer sector and country exposure while fiscal strength weighted indices apply a measure of financial solvency to the weightings allocated.

1.3 Benchmarks

Learning Objective

8.1.4 Understand the differences between a single and a composite (synthetic) benchmark, including how they are calculated

8.1.5 Be able to apply suitable and relevant benchmarks when measuring, evaluating and reviewing investment performance

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It is important that investors and other interested parties are able to monitor the performance of either a client's portfolio or an investment fund in order to assess the results that the investment manager has produced. This requires selection of a suitable benchmark and analysis of the performance of the fund.

This requires that the investment manager and client agree on the frequency with which the portfolio is reviewed, not only to monitor the portfolio's performance but also to ensure that it still meets with the client's objectives and is correctly positioned given prevailing market conditions.

Portfolio performance is rarely measured in absolute terms but in relative terms against the predetermined benchmark and sometimes against the peer group. In addition, indexed portfolios are also evaluated against the size of their tracking error, or how closely the portfolio has tracked the chosen index. Tracking error arises from both underperformance and outperformance of the index being tracked.

If the performance of an investment fund or fund manager is to be assessed, then the first issue to address is how to measure that performance.

Investment performance is usually monitored by comparing it to a relevant benchmark. In most cases, investors choose a market index or combination of indices to act as a portfolio's benchmark. The choice of benchmark will depend on the precise asset split adopted and should be compatible with the risk and expected return profile of the portfolio. If an index is used, this should represent a feasible investment alternative to the portfolio constructed.

1.3.1 Portfolio Benchmarks

The ways in which portfolio performance is assessed can be grouped into three main categories.

Benchmarks	
Comparison with a relevant bond or stock market index	• An index comparison provides a clear indication of whether the portfolio's returns exceed that of the bond or stock market index that is being used as the benchmark return. • As well as the main stock market indices that are generally seen, many sub-indices have been created over the years which allow a more precise comparison to be made.
Comparison to similar funds or a relevant universe comparison	• Investment returns can also be measured against the performance of other fund managers or portfolios which have similar investment objectives and constraints. • A group of similar portfolios is referred to as an investment universe.
Comparison to a custom benchmark	• Customised benchmarks are often developed for funds with unique investment objectives or constraints. • Where a portfolio spans several asset classes then a composite index may need to be constructed by selecting several relevant indices and then multiplying each asset class weighting to arrive at a composite return.

1.3.2 Types of Benchmarks

There are several types of benchmarks in use, but the primary types are shown in the following table.

Types of Benchmarks	
Absolute	• These have an objective of aiming to exceed a minimum target return. • For example, some absolute return funds have an objective to deliver positive returns over a rolling one-, two- or three-year period of a specified margin over a benchmark rate.
Manager universes	• This uses peer group averages to determine the benchmark by taking the performance of the median manager as the benchmark. • As a result, it cannot be specified in advance and has been criticised as creating a herd mentality rather than a focus on the need of the portfolio.
Broad Market indices	• There are several broad market indices that can be used such as the MSCI World Index, the S&P 500 or the FTSE All Share. • They have the advantage that they are well recognised, easy to understand and readily measurable. Their drawback is that the manager's investment style may be different.

Types of Benchmarks	
Style indices	• These represent a proportion of the available securities within an asset category that can be effectively grouped together, such as large capitalisation stocks or small cap stocks.
Factor models	• This is a benchmark that is created by relating one or more systematic sources of returns (factors or exposures) to returns of the benchmark. • The factors that make up the benchmark might be areas such as performance of the market, the sector or company size. • While they can help explain how performance is achieved, they are not easy to understand, they are not specified in advance, they can be ambiguous and are expensive to use.
Returns based	• These compare a manager's return to the returns of several style indices that best explains the manager's return. • They are generally easy to use and measurable, but the mix of underlying styles may not reflect the manager's investment process.
Custom based	• These use a selection of securities that best reflects the investment manager's approach to produce a composite or synthetic benchmark.

1.3.3 Custom Benchmarks

Customised benchmarks are often developed for funds with unique investment objectives or constraints or for portfolios that invest across multiple asset classes.

Where a portfolio spans several asset classes, then a composite index may need to be constructed by selecting several relevant indices and then multiplying each asset class by a weighting to arrive at a composite return.

An example is the private investor indices used in the UK that are provided by the Personal Investment Management and Financial Advice Association (a UK trade association for firms that provide investment management and financial advice) and which are calculated by MSCI.

There are different private investor indices which each have different asset allocations and are composed of related indices to reflect the differing aims of investors. The current allocations and respective indices used are shown in the following table.

Custom Benchmark					
Asset Class	Conservative Index	Income Index	Balanced Index	Growth Index	Representative Index
UK equities	7.5	15.0	15.0	32.5	MSCI UK IMI
International equities	22.5	32.5	45.0	45.0	MSCI All country World Index ex-UK (in GBP)
Government Bonds	12.5	10.0	5.0	2.5	Markit iBoxx £ Gilts
Inflation Linked Bonds	2.5	2.5	2.5	0.0	Markit iBoxx UK Gilt Inflation Linked
Corporate Bonds	32.5	20.0	15.0	5.0	Markit iBoxx £ Corporate
Cash	2.5	2.5	2.5	2.5	Custom Index of Bank of England Base Rate –0.75%, w/floor of 0%
Real Assets	2.5	2.5	2.5	5.0	MSCI UK IMI Liquid Real Estate
Alternatives	17.5	15.0	12.5	7.5	Custom Index of 100% Long MSCI World Diversified Multiple Factor Index + 70% Short MSCI World Index
Total	**100%**	**100%**	**100%**	**100%**	

1.3.4 Selecting Suitable Benchmarks

Learning Objective

8.1.5 Be able to apply suitable and relevant benchmarks when measuring, evaluating and reviewing investment performance

In most cases, investors choose a market index or combination of indices to serve as a portfolio benchmark.

The minimum standards that the benchmark should meet include:

- Unambiguous in its construction and transparent – the component securities and the weightings attached to them should be clearly defined and there should be low turnover in the securities included otherwise it can be difficult to base asset allocation on an index whose makeup is constantly changing.
- Measurable so that its value can be calculated on a frequent basis and the past returns of the benchmark should be available in order to gauge historical performance.
- Investable so that it is possible to replicate the benchmark.

- The availability of regularly published risk metrics for the benchmark so that the investment manager can compare their actively managed portfolio risks with the passive benchmark risks.

Benchmarks are used to track the performance of a portfolio or fund. The difference between the return earned on an individual portfolio and its benchmark is known as tracking error and is typically reported as a standard deviation percentage that can be positive or negative. When a portfolio is actively managed, tracking error may reflect the investment choices made by the active manager in an attempt to improve performance; if the portfolio outperforms tracking error is positive and if the portfolio underperforms the benchmark, it is negative. For a passively managed fund, tracking error is the difference between the fund return and the index being tracked and indicates how successfully or otherwise the fund achieves its objective of tracking the index.

To be useful, a benchmark should align with the style and risk adopted by the fund manager and should be:

- Specified in advance – the benchmark should be constructed prior to the start of the evaluation of portfolio performance.
- Appropriate to the manager's investment approach and style.
- Reflective of the manager's current investment opinions and knowledge and experience of the securities included within the benchmark.
- Accepted by the investment manager who will be accountable for deviations in construction of the portfolio due to active management.

On the face of it, selecting a suitable benchmark is confusing given how many indices are available and the fact that most clients will probably hold more than one asset class. A way to do this is to break down the client's portfolios into its component parts and then try to identify a suitable benchmark by drilling down on the holdings in the client's portfolio compared to the constituents of a benchmark index.

For example, if an investment manager is focused on large cap US equities, the S&P 500 would be a good benchmark to use; alternatively, if the focus is on small or micro cap equities, the Russell 2000 index would be a more suitable benchmark. For another fund manager who is primarily investing in emerging markets equities, the MSCI Emerging Markets Index could be a useful yardstick or benchmark. If a fund manager is managing a blue chip portfolio of large UK companies, the FTSE100 may be more appropriate than the FTSE All Share Index.

With an investment fund, the benchmark is chosen by the fund management group. The choice of an index as a benchmark should indicate the securities universe the manager selects their individual investment holdings from. So, for a large-cap US equity fund, an appropriate benchmark might be the S&P 500, with the implication that individual investments would comprise companies listed in the S&P 500 index. While it may be acceptable for a small number of stocks to be selected from elsewhere, significant investment outside this universe would be unexpected. In any case the manager should make clear the degree to which they invest away from their benchmark index, so as to avoid the danger of misleading their investors.

Having stated on fund literature that a specific index is being used as a benchmark, their investors should have a right to expect that:

- The index is representative of the investment activities of the fund.
- The significant majority of individual investments made will be drawn from constituents of this index, with any exceptions clearly indicated and degree to which off-index investments can be made clearly stated.
- The future index returns are representative of the level of future returns they should be able expect.
- The index risk level is representative of the risk level they should be able to expect (again forward looking).
- The degree to which routine active or passive management would be expected to result in performance deviations from the aggregate index performance should be stated (eg, tracking error, beta range).
- Any significant deviations from the above should be clearly and transparently communicated.

Fund managers have been prone, at times, to 'game' benchmarks with indices selected with the aim of flattering their performance, and which would not meet the above criteria. Consequently, this is an area where wealth managers can add value for their clients by ensuring their due diligence on funds includes checking that appropriate indices (or other benchmarks) have been identified.

1.4 Global Investment Performance Standards

Learning Objective

8.1.2 Understand the concept and purpose of performance calculation using the GIPS method and benchmarking against indices

Global Investment Performance Standards (GIPS) are not a way of benchmarking performance but are global standards for calculating and presenting performance figures. As such, they represent a great leap forward for the performance measurement industry.

Originally established in 1999 by the CFA Institute, GIPS have been voluntarily adopted by industry representative organisations in over 20 countries in order to help promote best standards. Of the top 100 asset management firms globally, 85% claim compliance with the standards and more than 1700 firms comply with the standards. Key features of the GIPS include the following:

- They are ethical standards for investment performance presentation to ensure fair representation and full disclosure of investment performance.
- In order to claim compliance, firms must adhere to the requirements included in the GIPS standards.
- Firms are expected to adhere to the recommendations to achieve best practice in the calculation and presentation of performance.
- Firms should include all actual, discretionary, fee-paying portfolios in at least one composite defined by investment mandate, objective, or strategy in order to prevent firms from cherry-picking their best performance.
- The GIPS standards require firms to adhere to certain calculation methodologies and to make specific disclosures along with the firm's performance to ensure accuracy of data.

2. Portfolio Performance Analysis

Learning Objective

8.2.1 Be able to analyse portfolio performance in terms of: absolute and relative return; absolute and relative risk; risk-reward ratios; portfolio alpha and beta; impact of new money and timing factors

8.2.2 Be able to analyse and explain contributions to portfolio performance: contributions to return (performance attribution) arising from asset allocation, currency movements, stock selection and timing; local currency and client (base) currency performance; performance of hedging strategies; tracking error

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Performance evaluation attempts to explain why a portfolio produced a certain return. It does so by breaking down the performance and attributing the results based on the decisions made by the fund manager on asset allocation, sector choice and security selection.

This involves three elements:

- **Performance measurement** – calculating the performance of the fund based on changes in its value over specified time periods.
- **Performance attribution** – assessing how the investment manager attained that performance by undertaking performance attribution to identify the sources of the portfolio's performance.
- **Performance appraisal** – evaluating the performance to determine whether it was due to investment decisions, market movements or chance.

Performance measurement focuses on the determination and accuracy of return measures, while performance evaluation builds on this by specifying an appropriate benchmark, against which the returns are compared. Performance evaluation is the measurement and assessment of outcomes of investment decisions taken by management in an investment process.

2.1 Portfolio Performance

Investors wish to know the return on the sums of money placed with a fund manager or in a fund. This will help them determine how well an existing or prospective manager invests clients' money. It provides them with statistics to measure the success of a manager in investing clients' funds.

The statistics used to measure performance must meet certain requirements:

- They must be appropriate for the situation. Using a wrong statistic can give a misleading impression; for example, using the money-weighted rate of return when the time-weighted version would provide a more accurate representation of the return achieved.
- The statistics must be consistently used. Changing the choice of statistic used over time should create concern.

- Measurements must be free from bias, in other words it is not influenced by external or irrelevant factors.
- Standardised statistics should be used. There should be universal agreement in the use of a given measurement to ensure that everyone is using the same yardstick for measuring performance.

Often people can use statistics that make them look the best (or someone else the worst), which is why standard statistics can be very helpful. The GIPS standards are agreed methods for calculating and presenting performance figures to avoid such situations.

Performance measurement is a first step in the evaluation process. It focuses on determining an accurate rate of return for a fund and there are a number of common measures of return including:

- holding period return
- total rate of return
- money-weighted rate of return, and
- time-weighted rate of return.

2.1.1 Absolute and Relative Performance

Performance can be measured in terms of both absolute and relative performance.

Absolute Performance

An absolute return can simply be a return objective, without reference to any another benchmark or similar comparator. Alternatively, references may be made to an actuarial rate of return or a pre-specified return objective the fund has to exceed.

Absolute performance measures aim to establish whether the total return is at a level commensurate with the total risk experienced. The basis of most finance theory is that investors are rational and risk averse; accordingly, it is appropriate to determine whether they are being adequately compensated by way of absolute return for that absolute risk.

To accommodate both return and risk elements, a suitable absolute performance measure should include both a return target, specified as a total return (to include both capital growth and income elements) as well as a risk target. The risk target helps an investor understand whether the level of return being offered is appropriate to the likely risk being taken on. Clearly a fund that offers modest returns while taking on a large degree of risk would not be as good as a similar fund offering the same sorts of returns for less risk.

Risk targets can often usefully be expressed as risk limits or risk budgets to capture the idea that a maximum tolerable amount of risk is being specified, and providing the return target is met, it is not likely to be a problem if this return was achieved at a lower risk than expected. The risk target could be expressed quantitatively using a variety of measures, such as volatility or value-at-risk (VaR).

Relative Performance

Relative performance measures may be appropriate when the investment strategy is to outperform a specific index. In this case, it will be the excess return and risk in comparison to the index that will be relevant. Almost by definition, this is best achieved by considering excess return per unit risk measures.

While some investors are comfortable investing in funds that can show a track record of relative outperformance, there are increasing numbers of investors who are not satisfied with a fund that simply outperforms other similar funds (or benchmark indices). Others may also be looking for some measure of absolute performance.

To illustrate the point, a fund specialising in large cap equities may have outperformed in a particular year based on relative terms. It may have claimed a relative return of +2%; however, from an absolute measure of performance, this fund may actually have shown a loss of 5% of its value in that year, while its comparative benchmark returned a negative return of 7% for the year.

2.1.2 Calculating Returns

Although the Global Investment Performance Standards are not universally adopted, we will use these here as the standards to be followed when calculating performance. The requirements in GIPS mean that firms are required to calculate performance to include a total rate of return and on a time-weighted rate of return basis.

Total Rate of Return

As we saw in chapter 4, the formula for calculating total return or a holding period return is:

$$R_{TR} \times \frac{EMV - BMV}{BMV}$$

Where:

R_{TR} = total return
EMV = end market value
BMV = beginning market value

The value of the assets in the portfolio should be based on the closing prices for exchange traded securities and the bid price for securities traded in a dealer market if available and if reflecting the tradable price. For securities not trading in active markets, indicative (or alternatively independently evaluated) bid prices should be used where these are available.

The securities held in the portfolio should be based on trade-date accounting. Trade-date accounting determines the correct economic value of the portfolio assets as of the transaction date and is used in preference to settlement date accounting because of the lengthy settlement periods of some markets.

GIPS require that total return includes income as well as realised and unrealised gains and losses. It goes further and requires the use of accrual accounting for investments generating interest income and for

dividends. You should recall that accrual accounting requires revenues and expenditure to be recorded when they are incurred regardless of when the cash transaction takes place.

- For fixed income securities, the accrued interest on the stock must be included. Typically, this should be the accrued interest income that would have been received had the security actually been sold on that date.
- Dividends should be accrued when the dividend has been declared but not yet paid. Typically, this will be when the stock goes ex-dividend (xd). Until the ex-dividend date, the share price includes the announced dividend but on the ex-dividend day, the share trades without the right to the next dividend payment and, in theory, the share price should fall by the amount of the dividend.

We can see how this operates by using a straightforward example.

Calculating Total Return

Let us assume that at the start of the performance calculation period we have the following portfolio:

Nominal	Security	Price	Value
10,000	ABC Corp ords	25	250,000
20,000	DEF Corp ords	20	400,000
100,000	GHI Corp 5% bond 2030	105	105,000
	Cash incl **accrued income**		35,000
Total Portfolio Value			790,000

The transactions that took place during the period are:

Cash receipts from client	0
Cash payments to client	0
Dividends	3,000
Accrued interest	2,500

At the end of the year, we have the following security quotations:

10,000	ABC Corp ords	26xd
	Accrued dividend	2,500
100,000	GHI Corp 5% bond 2030	21
100,000	GHI Corp 5% bond 2030	104.5
	Accrued interest	275

The closing value of the portfolio at the end of one year is therefore:

Nominal	Security	Price	Value
10,000	ABC Corp ords	26xd	260,000
20,000	DEF Corp ords	21	420,000
100,000	GHI Corp 5% bond 2030	104.5	104,500
	Cash incl accrued income		37,775
Total Portfolio Value			822,275

The accrued interest and the accrued dividend have been added to the available cash held at the beginning of the period.

The total return therefore equals:

$$R_{TR} \times \frac{822,275 - 790,000}{790,000} = 4.085\%$$

Time-Weighted Rate of Return (TWRR)

A time-weighted rate of return that adjusts for external cash flows is the one that should be used to calculate performance. You should note that dividend payments and interest income are not cash flows that require adjustment if they are retained within the portfolio.

A time-weighted rate of return is used because external cash flows are generally client driven. By removing the effects of external cash flows, a time-weighted rate of return best reflects the firm's ability to manage the portfolio and allows existing and prospective clients to fairly evaluate the past performance of the firm and make comparisons between investment management firms.

The GIPS standards allow flexibility in choosing the calculation methodology, which means that firms may use alternative formulas, provided the calculation method chosen represents returns fairly, is not misleading, and is applied consistently.

Valuation at Time of Large Cash Flows

This method calculates portfolio performance immediately prior to each cash flow to produce a rate of return for the sub-period using the holding period return formula and then geometrically links each sub-period return to calculate the portfolio return for the full period.

As we saw in chapter 4, time weighted rate of return is calculated for each separate period as follows:

$$TWWR = \{(1 + R_{SP1})(1 + R_{SP2}) \ldots \ldots (1 + R_{SPn})\} - 1$$

Where SPn equals the percentage return during a sub-period.

The returns for each sub-period are then geometrically linked to produce the TWRR.

An example of how it is calculated is as follows.

Calculating Time-Weighted Rate of Return

The following table shows the value of a portfolio during the first quarter of a year and the cash flows that take place.

Date	Market Value	Cash Flow	Market Value after Cash Flow
31/12/2018	100,000	0	100,000
31/01/2019	102,000	0	102,000
10/02/2019	103,000	5000.0	108,000
28/02/2019	108,500	0	108,500
10/03/2019	109,000	-2000.0	107,000
31/03/2019	107,500		

We next calculate the return for each sub period.

January:

$$\text{Rtr} = \frac{(102{,}000 - 100{,}000)}{100{,}000} = 2\%$$

February:

$$\text{Sub – period 1: Rtr} = \frac{(103{,}000 - 102{,}000)}{102{,}000} = 0.98\%$$

$$\text{Sub – period 2: Rtr} = \frac{(108{,}500 - 108{,}000)}{108{,}000} = 0.46\%$$

Geometrically linked return for February = (1 + 0.0098) x (1 + 0.0046) – 1 = 1.44%

March:

$$\text{Sub – period 1: Rtr} = \frac{(109{,}000 - 108{,}500)}{108{,}500} = 0.46\%$$

$$\text{Sub – period 2: Rtr} = \frac{(107{,}500 - 107{,}000)}{107{,}000} = 0.47\%$$

Geometrically linked return for March = (1 + 0.0046) x (1 + 0.0047) – 1 = 0.93%

Quarterly Return:

Rtr = [(1 + 0.02) x (1 + 0.0144) x (1 + 0.0093)] – 1 = 4.43%

Geometric linking is used to compute a quarterly return using the formula:

$R_Q = [(1 + R_{M1}) \times (1 + R_{M2}) \times (1 + R_{M3})] - 1$

Where:
R_Q = Quarterly percentage performance
R_{M1} ... = Percentage returns in months 1, 2 and 3

The same concept can be used to calculate the annual return by linking the quarterly returns or linking the 12 monthly returns. Geometrically linked returns are also known as cumulative returns.

Actually, valuing the portfolio each time there is an external cash flow requires the ability to obtain daily valuations of all portfolio holdings. The main advantage of this daily valuation method is that it calculates a better estimate of TWRR. Its drawback is that it requires a precise valuation on each date that a cash flow takes place and a method for correcting errors is needed. If there is mispricing, improperly booked transactions or missed corporate actions, then day-to-day compounding will not correct for them automatically if there are external cash flows.

Other Methods

Calculating TWRR can be complicated and so other formulas for calculating approximate time-weighted rates of return are also permitted. The modified Dietz method and the modified internal rate of return method are examples of other acceptable daily-weighted methods.

The modified Dietz method is an estimate of the 'true' TWRR as it weights each cash flow according to the length of time it was actually held in or absent from the portfolio. This simplifying assumption means that the value of the portfolio does not need to be determined on the date of each cash flow. The formula for modified Dietz uses the holding period formula and adds in the cash flow:

$$R_{TR} = \frac{EMV - BMV - Cash\ flow}{BMV + Weighted\ cash\ flow}$$

We can see how this operates by calculating the quarterly return of a portfolio using the same figures as above. The weighting of the cash flow is the number of days that the cash flow has been in or out of the portfolio as a proportion of the whole period and the formula is:

$$\frac{Number\ of\ days\ in\ the\ period - days\ cash\ held\ in\ or\ out\ of\ the\ portfolio}{Number\ of\ days\ in\ the\ period}$$

Modified Dietz Method

For convenience, the portfolio values are shown again below.

Date	Market Value	Cash Flow	Market Value after Cash Flow
31/12/2018	100,000	0	100,000
31/01/2019	102,000	0	102,000
10/02/2019	103,000	5,000.0	108,000
28/02/2019	108,500	0	108,500
10/03/2019	109,000	–2,000.0	107,000
31/03/2019	107,500		

We next calculate the return for each sub-period.

January:

$$R_{TR} = \frac{(102{,}000 - 100{,}000)}{100{,}000} = 2\%$$

February:

The cash flow weighting is $\frac{28 - 10}{28} = 0.64$

$$Rtr = \frac{(108{,}500 - 102{,}000 - 5{,}000)}{102{,}000 + (5{,}000 \times 0.64)} = 1.43\%$$

March:

The cash flow weighting is $\frac{31 - 10}{31} = 0.68$

$$Rtr = \frac{(107{,}500 - 108{,}500 - (-2{,}000))}{108{,}500 + (-2{,}000 \times 0.68)} = 0.93\%$$

Quarterly Return:

$Rtr = [(1 + 0.02) \times (1 + 0.0143) \times (1 + 0.0093)] - 1 = 4.42\%$

The main attraction of the modified Dietz method is that it is not necessary to know the value of a portfolio on every day that a cash flow takes place. Its drawback is that TWRR estimates using this method is the most inaccurate when there are one or more large cash flows or cash flows take place when markets are highly volatile. The modified internal rate of return method has the same advantage and drawback.

Money-Weighted Rate of Return

Money-weighted returns are allowed by GIPS if the firm has control over the external cash flows and it is one of the following – a closed-end portfolio, has a fixed life or commitment or a significant part of the strategy is held in illiquid investments. Under the new MWR requirements, firms will only be required to show a since-inception IRR through the most recent annual period end.

TWRR and Client Reporting

The GIPS standards are primarily based on the concept of presenting the firm's composite performance to a prospective client rather than presenting individual portfolio returns to an existing client. They do not address client reporting therefore money-weighted returns may be used for client reporting where they add value in understanding the impact to the client of the timing of external cash flows.

2.1.3 Currency Issues

One further dimension to consider in the evaluation of performance relates to international investing and currency risk. Currency movements can have a significant positive or negative impact on returns, and most fund managers will consider this factor when deciding whether to be over- or underweight in a foreign market.

Let us assume that a UK investor is interested in investing overseas by purchasing US stocks trading on the New York Stock Exchange (NYSE). The investor may have a positive view of US stocks, but at the same time they have to bear in mind that over the investment holding period, the currency rates will also change. Thus, they have to take into account the possibility of losses or gains on the stock market, together with the losses or gains on currency.

When they buy US shares, they have to convert sterling pounds into dollars (at a starting FX rate expressed in GBP/USD). At the end of the investment holding period, the investor will sell their holdings in the US Shares and convert the dollars received from this investment into pounds sterling.

A useful formula to work out the local total return from an investment made in an asset in a foreign country is:

$$R_d = [(1 + R_f) \times (1 + R_{fx})] - 1$$

Where:
R_d = the holding period return (annualised) to an investor in a domestic base.
R_f = the holding period return gained on the investment made overseas.
R_{fx} = the holding period return gained on the currency exchange.

Calculating a Return in Domestic Currency

A UK investor has £20,000 to invest. The investor converts this amount of domestic cash into dollars at an exchange rate of GBP:USD of 1.50 and now has $30,000 (ignoring the bid-ask spread and commissions). This is invested in 15,000 ABC Corp at $2.00 per share.

After one year, the shares rise in price to $2.50 and the investor sells the holding and receives $37,500. The dollars are converted back into GBP at a rate of USD:GBP of 1.90 and receives £19,737.

The holding period return in USD (ignoring dividends) is (37,500/30,000) – 1 or 25%. Over that period, however, the currency has depreciated in value and the return in GBP terms is (19,737/20,000) – 1 or a loss of 1.31%. The currency return was (1.50/1.90) – 1 = –21.05%.

Alternatively, we can calculate the returns using the above formula if we have information about the asset return (+25%) and the foreign currency return (–21.05%):

$R_d = [(1 + 0.25) \times (1 + (–0.2105))] – 1 = –0.013125$ or –1.3125%

This example illustrates the point that foreign exchange risk can seriously affect the performance in local terms. This is especially true if the foreign currency weakens against the local domestic currency.

2.2 Performance Attribution

Investors will want to assess the returns achieved by a fund manager to determine which elements of the strategy were responsible for results and why. Performance attribution attempts to decompose the overall return (or risks) of a manager's performance into discrete components.

Performance attribution is a set of techniques that analysts use to explain why a portfolio's performance differed from the benchmark. This difference between the portfolio return and the benchmark return is known as the active return and can be explained by asset allocation and security-level selection choices that the manager has voluntarily decided to take in order to deliver superior returns over a benchmark. In essence, the manager is trying to beat the benchmark index return and attempting to capture alpha by altering some key exposure elements of their portfolio.

Alpha is the active return achieved in a successful active strategy. In this way, performance relative to a benchmark gives an indication of the value added to the portfolio. Dissecting that performance to determine how value has been added is the process known as performance attribution.

The most widely used performance attribution method for equity portfolios utilises a sector-based approach. This approach is sometimes referred to as the Brinson model. Fixed-income managers, on the other hand, utilise specialised attribution models that incorporate the effects of yield curve movements.

The Brinson model decomposes the portfolio return into three components: selection, allocation, and the interaction between the two. This can be best seen by working our way through a straightforward example.

The first stage in the process is to determine the composition and performance of the fund and of its external benchmarks.

Performance Attribution

We will assume that the investment fund we are analysing had a fund value of $10 million at the start of the period we are considering, the asset allocation of the fund was 60% in equities and 40% in bonds and realised returns were 8% for equities and 3% for bonds.

The benchmark used for the fund assumed an asset allocation of 50% in equities and 50% in bonds. Over the period, the performance of the equity index was +5% and +3.5% for the bond index.

Following this, the next step is to use the fund and benchmark statistics above to determine the absolute outperformance or underperformance of the fund so that it can be compared to that of the benchmark.

Fund and Benchmark Performance

For simplicity, we will assume that there were no cash inflows or outflows during the period so the absolute performance of the fund can be calculated, therefore, by using the holding period return formula to assess the absolute performance of the fund.

	Asset Allocation	Value at Start of the Period	Realised Return	Value at End of the Period
Equities	60%	6,000,000	8.00%	6,480,000
Bonds	40%	4000000.00	3.00%	4,120,000
		10,000,000		10,600,000

So, the absolute performance of the fund is:

$$R_{TR} = \frac{EMV - BMV}{BMV} = \frac{10.60m - 10m}{10m} = \frac{0.60m}{10m} = 6.00\%$$

The benchmark used for the fund assumed an asset allocation of 50% in equities and 50% in bonds. Over the period, the equity index produced a return of 5% and the bonds index a positive return of 3.5%. The benchmark performance is therefore:

	Asset Allocation	Value at Start of the Period	Index Return	Value at End of the Period
Equities	50%	5,000,000	5.00%	5,250,000
Bonds	50%	5,000,000	3.50%	5,175,000
		10,000,000		10,425,000

So, the performance of the benchmark is 0.425m ÷ 10m = 4.25%. In absolute terms, we can see that the fund outperformed its benchmark.

Next, we need to look at how this absolute outperformance was achieved by analysing total performance and the contributions from asset selection and security selection.

Total Performance

The return achieved depends on the product of the weights allocated to each security in the fund and its realised return. The weights or allocation that an active manager has in the securities will be different from those in the benchmark and in some cases the securities selected for inclusion in the managed fund may also be different.

The portfolio return contribution is the realised return for that security multiplied by its weighting or the index return multiplied by its weighting. We can see from the above figures that the portfolio return contributions from the different asset allocations were:

	Fund:			Benchmark:		
	Weighting	Realised Return	Portfolio Return Contribution	Weighting	Index Return	Portfolio Return Contribution
Equities	60%	8.00%	4.80%	50%	5.00%	2.50%
Bonds	40%	3.00%	1.20%	50%	3.50%	1.75%
	Overall Return		6.00%	Overall Return		4.25%

The fund had an overall return of 6.00% compared to the benchmark return of 4.25% giving a contribution to total return (active return) of 1.75%. The fund has the same components as the benchmark, but the fund manager has taken a different view on allocation between the equity and bond components as well as their constituents.

Next, we can decompose the outperformance of the fund relative to the benchmark that is attributable to asset allocation and security selection.

Performance Attributable to Asset Allocation

The active return above can be decomposed further to show how asset allocation and selection skills are distributed in the active return.

The contribution from asset allocation is the index return multiplied by the active or excess weighting. The performance that is attributable to asset allocation can therefore be as follows:

	Fund Allocation	Benchmark Allocation	Active or Excess Weight	Index Return	Contribution to Asset Allocation
Equities	60%	50%	10%	5.00%	0.50%
Bonds	40%	50%	–10%	3.50%	–0.35%
				Total	0.15%

The contribution from security selection is the active return from the excess weighting multiplied by the weighting used by the fund for that security. So, the performance attributable to security selection is:

	Fund Return	Benchmark Return	Active or Excess Weight	Fund Weighting	Contribution of Security Selection
Equities	8%	5.00%	3%	60%	1.80%
Bonds	3%	3.50%	–0.5%	40%	–0.20%
				Total	1.60%

From this example, we can observe that the fund has delivered a positive return of 1.75% which exceeds the returns available from adopting a purely passive approach of having a 50:50 allocation to the two benchmarks.

The active approach taken by the investment manager has enabled them to outperform the benchmarks by 1.75%. Further decomposition of the return reveals that:

- The asset allocation decision contributed only 0.15% of outperformance.
- The outperformance is largely due to security selection which is responsible for 1.60% of the active return.
- Closer examination reveals that within security selection, the manager outperformed within equities but underperformed with the bond selection.

2.3 Portfolio Appraisal Measures

Portfolio performance evaluation involves determining how a portfolio has performed relative to some comparison benchmark. There are a number of risk and return measures which we considered in earlier chapters, so in the following sections we will expand on these.

2.3.1 Alpha and Beta

Alpha and Beta are two commonly used measurements to understand how well fund managers perform.

Beta

The performance of the stock market, whether as a whole or as different segments, is measured by a stock market index. In the context of assessing performance, the term beta is a measure of a fund or stock's sensitivity to the movement of the overall stock market.

The simple rule of thumb is that if beta is equal to one, then the fund manager, or the security, is performing exactly in accordance with the market. In other words, if the market shows a return of 10% (after deducting the risk-free rate) then the portfolio with a beta of one would also have delivered a 10% return (after deducting the risk-free rate).

In regard to portfolios or assets, the beta value is sometimes erroneously referred to as the volatility of the asset. High beta assets, such as a technology stock which, for example has a beta value of two, may well also be highly volatile, but the beta value tells us that when the market goes up say 10% (after deducting the risk-free rate), the stock will go up 20% (after deducting the risk-free rate). Likewise, the stock will go down twice as much as the market itself.

Alpha

Alpha is usually defined as the degree to which a particular fund managers is able to outperform a benchmark index such as the S&P 500 or the FTSE 100. Since superior performance requires a positive alpha, this makes alpha the most widely used performance measure. It is often the cornerstone for ranking asset management performance and is thus eagerly sought after by fund managers.

We can also use the concept of alpha in regard to individual securities, since, just as a manager can outperform a benchmark index, so we can observe the same kind of outperformance or underperformance in a security's returns relative to an index. Here we are not measuring managerial competence (or lack of it) but simply taking the returns of the stock versus the historical returns of an index and isolating the excess or deficit returns vis-à-vis the benchmark index.

Being able to quantify alpha is important if we want to separate the degree to which a particular asset is benefiting (or suffering) from the overall direction of the market and the degree to which it is displaying relative advantage or disadvantage to a benchmark or index.

- The saying that 'all boats rise with the rising tide' is a useful analogy, as it captures the notion that when the underlying dynamics of the market environment are rising, then it should be expected that most market securities will enjoy similar buoyancy.
- The converse is equally true. When bearish conditions prevail in the overall market, it is to be expected that most securities will be falling.
- If a security moves up and down completely in unison with the overall market it will have zero alpha; if it underperforms the overall market, it can be said to have negative alpha, and if it outperforms the overall market, it has positive alpha.

Alpha values are quite variable, and there can be considerable inconsistency over different historical periods. They are also sensitive to initial conditions, in that the exact time period chosen and the inception date may have a significant impact on the alpha measurement.

Alpha and beta are used together by investment managers to calculate, compare, and analyse returns. Both the alpha and beta value of a security are very unstable over long stretches in the return's history of

a security, and this poses questions as to how reliable either value can be in further statistical analysis of portfolio construction strategies. Nevertheless, both values are widely used in modern finance.

Deeper analysis of alpha may also include Jensen's alpha which we will consider next. Jensen's alpha takes into consideration the capital asset pricing model (CAPM) market theory and includes a risk-adjusted component in its calculation. Beta (or the beta coefficient) is used in the CAPM, which calculates the expected return of an asset based on its own particular beta and the expected market returns.

Jensen's Alpha

The Jensen measure of risk-adjusted equity portfolio returns is employed to evaluate the performance of a well-diversified portfolio against a CAPM benchmark with the same level of systematic risk as that assumed by the portfolio.

The formula for calculating alpha is:

Jensen's Alpha $= R - [R_f + \beta (R_m R_f)]$

Where:

R represents the portfolio return.
R_f represents the risk-free rate of return.
β represents the systematic risk of a portfolio.
R_m represents the market return.

It can also be expressed as:

- Alpha = Actual rate of return of the portfolio – expected rate of return on the portfolio

Or

- Alpha = Actual rate of return of portfolio – [risk-free rate of return + beta * (Market return – risk-free rate of return)]

Calculating Alpha

For example, assuming that the actual return of a fund is 6%, the risk-free rate is 1%, beta is 1.1, and the benchmark index return is 4%, alpha is calculated as:

Alpha $= 0.06 - \big(0.01 + 1.1 \times (0.04 - 0.01)\big) = 0.017$ or 1.7%

The result shows that the fund in this example outperformed the benchmark index by 1.7%.

The Jensen measure establishes whether the portfolio has performed in line with its CAPM benchmark and, therefore, lies on the Security Market Line (SML), or whether it has out- or underperformed the benchmark and is, therefore, positioned above or below the SML. The extent of any out- or underperformance is known as Jensen's alpha.

Its use can be seen in comparing the performance of similar portfolios or funds. As an example, we will assume we are looking at three comparable funds – Fund A returned 11%; Fund B returned 14%; and Fund C returned 15%. On the face of it, Fund C produced the higher return, but this takes no account of the risks involved in generating that return. If we identify the beta for each fund, we can use the CAPM formula to identify the expected return from each fund and from that determine the alpha generated by the actual return.

Measuring Funds

For this example, we will assume that the risk-free rate is 1%, the market return is 10% and that Fund A has a beta of 1.20, Fund B has a beta of 1.40 and Fund C has a beta of 1.60. We can then use the CAPM formula to calculate the expected return as follows:

Expected return = Risk Free Rate + Beta x (Market Rate – Risk Free Rate)

	Beta	Required Return	Expected Return
Fund A	1.20	0.01 + 1.20 x (0.10 – 0.01)	11.8%
Fund B	1.40	0.01 + 1.40 x (0.10 – 0.01)	13.6%
Fund C	1.60	0.01 + 1.60 x (0.10 – 0.01)	15.4%

We can then deduct the actual return from the expected return to determine the alpha generated by each fund:

	Expected Return	Actual Return	Alpha
Fund A	11.8%	11.0%	-0.8%
Fund B	13.6%	14.0%	0.4%
Fund C	15.4%	15.0%	–0.4%

From this, we can see that, using the Jensen's alpha measure, the best performance is from manager B who delivers 0.4% more returns than those expected from using the CAPM expected returns formula.

When comparing two funds with similar beta ratios, investors prefer the fund with the higher alpha as this implies a greater reward has been returned at the same level of risk. This helps investors to gauge the value which a fund manager adds or detracts from a portfolio and helps in the comparison with other funds. For example, if two investments deliver the same levels of return, investors would likely opt for the more stable, less-risky option since that fund outperforms when including risk as a performance measure.

2.3.2 R-Squared

R-squared, usually represented as R^2, is a technique that evaluates the statistical relationship between two series of events. In investments, it is commonly used to describe the portion of a security's movement relative to the movement of a related index.

R^2 is a statistical value which is associated with the correlation coefficient and linear regression.

With the correlation coefficient, we have already seen that it describes the strength of the relationship between the relative movements of two variables. For example, a –1 value for the coefficient suggests perfect negative correlation and +1 suggests a perfect positive correlation. The degree or magnitude of correlation is the same in both cases but one is the inverse of the other. If A and B always move in the same direction and by the same proportions they are said to be perfectly positively correlated, whereas if they move by the same proportionality always, but in opposite directions, they are negatively correlated.

Whereas correlation explains the strength of the relationship between an independent and dependent variable, R^2 explains to what extent the variance of one variable explains the variance of the second variable.

R^2 is the square of the correlation coefficient and is sometimes referred to as the coefficient of determination.

- A correlation coefficient of, for example, 0.9 would give us an R^2 value of 0.81 and then it can be plausibly claimed that 81% of the co-movement between the two variables is accounted for or explained by the relationship. The remaining 19% is sometimes said to be the unexplained variance.
- The higher the value for the correlation and, therefore, the higher the value for R^2 the greater the confidence we can have that there is a strong relationship between two variables – such as market returns and fund manager returns.

R^2 is used in performance appraisal as a measure of the percentage of an asset or fund's returns that can be explained as a result of the performance of a benchmark. For investments, it is reported as a number between 0 and 100.

- An asset or investment fund with an R^2 of 100 means that all movements in the security are explained by movements in the index or benchmark. An R^2 of 100 or close to 100 would indicate that the investment fund is an index tracker.
- A high R^2 between 85 and 100 indicates the stock or fund's performance moves relatively in line with the index.
- A fund with a low R^2 at 70 or less indicates the security does not generally follow the movements of the index.
- An asset or investment fund with an R^2 of 0 has no correlation to its benchmark at all.

Normally, statisticians would not be persuaded of a consistent pattern of association or co-movement between two variables if the R^2 value was below 0.5.

Beta and R^2 are two related, but different, measures. R^2 measures how closely each change in the price of an asset is correlated to a benchmark; beta measures how large those price changes are in relation to a benchmark.

2.3.3 Risk-Adjusted Returns

As well as the conventional measures of performance appraisal, there are a number of measures that explicitly take the volatility of returns into account. As we have seen, modern portfolio theory assumes that investors are considered to be risk averse, so it follows that calculating risk-adjusted return measures that reveal how much return an investment actually yields when it is adjusted for the risk taken should be considered.

Sharpe Ratio and Treynor Ratio

We saw in chapter 4 that:

- the Sharpe ratio measures the return over and above the risk-free interest rate from an undiversified equity portfolio for each unit of risk assumed by the portfolio: risk being measured by the standard deviation of the portfolio's returns

and that

- the Treynor ratio is a measure of the returns earned in excess of that which could have been earned on a riskless investment such as a Treasury bill.

In the next example, we will look at how these can be used in conjunction to better analyse performance.

We will assume that we are analysing two funds and have obtained the following risk and return information together with the returns from a FTSE 100 tracker fund that we will use as a proxy for a diversified benchmark index. The risk-free rate is 5%.

	Fund A	Fund B	FTSE 100 Tracker Fund
Mean Return (%)	10.78	12.02	13.46
Standard deviation (%)	10.03	13.17	13.33
Beta	0.64	0.85	1

Using this information, we can calculate the Sharpe ratio.

Sharpe Ratio

The ratio is expressed as follows:

$$\text{Sharpe ratio} = \frac{R_A - R_F}{\sigma_A}$$

Where:
RA = Average return on the account.
RF = Average risk-free return.
σA = Standard deviation of account returns.

So, the Sharpe ratio is:

Fund A	Fund B	Benchmark
$\frac{10.03}{10.78 - 5} = 0.576$	$\frac{13.17}{12.02 - 5} = 0.533$	$\frac{13.33}{13.46 - 5} = 0.635$

The results show that both funds failed to beat their benchmark and that Fund A has a higher ratio and so outperformed Fund B.

Next, we will calculate the Treynor ratio for the funds. With the Treynor ratio, the excess return is divided by beta as a measure of the risk. Beta risk assumes that the portfolios are already diversified. With Treynor, the excess return is adjusted only to the market (systematic risk). The residual specific or unsystematic risk is totally ignored in this calculation because the model assumes that this element of the risk can be diversified by investors, simply by holding a larger portfolio of diverse and uncorrelated securities.

Treynor Ratio

The ratio is expressed as follows.

$$\text{Treynor ratio} = \frac{R_A - R_F}{\beta_A}$$

Where:

R_A = Average return on the account.
R_F = Average risk-free return.
β_A = Standard deviation of account returns (the portfolio's beta).

So, the Treynor ratio is:

Fund A	Fund B	Benchmark
$\frac{0.64}{10.78 - 5} = 9.031$	$\frac{0.85}{12.02 - 5} = 8.259$	$\frac{1.00}{13.46 - 5} = 8.460$

With the Treynor ratio, once again, the higher the ratio, the greater the implied level of active management skill, suggesting that Fund A produced the highest risk-adjusted returns.

If we compare the results, we see the following:

	Fund A	Fund B	Benchmark
Sharpe ratio	0.576	0.533	0.635
Treynor ratio	9.031	8.259	8.460

There is now a conflict that is apparent between the two performance measures about whether Fund A is better, or the benchmark is better. How can this difference in results between the two measures be resolved?

We know the benchmark is a totally diversified fund – in the total risk of the security, only systematic risk is present and the unsystematic risk is zero. Fund A, on the other hand, must have both the unsystematic and the systematic risks present in its standard deviation. The beta measure excludes unsystematic risk and as a result, with Treynor the performance of Fund A is overstated. The lack of diversification present in Fund A is ignored by Treynor but is included in Sharpe.

This simple analysis reveals to us that one performance measure cannot be used in isolation and when combined with others they all provide a much better understanding of performance.

As a generalisation, when evaluating funds which are sector specific, the Sharpe ratio would be more meaningful; this is due to the fact that unsystematic risk would be present and so we would want to evaluate the returns based on the total risk. With diversified equity funds, the element of unsystematic risk would be very negligible as these funds are expected to be well diversified by virtue of their nature; hence, the Treynor ratio would be more apt here.

Sharpe Ratio and the Information Ratio

We saw previously that:

- The Sharpe ratio evaluates the performance of a portfolio based on the total risk of a portfolio. It measures the excess return generated by a portfolio over the risk-free rate in relation to the total risk or standard deviation of a portfolio.
- The Information ratio evaluates the performance based on the excess return generated by a portfolio divided by its risk, as measured by its standard deviation of returns.

The information ratio is similar to the Sharpe ratio but, whereas the Sharpe ratio compares the excess return of an asset against the return of a risk-free asset, the information ratio compares active return to the most relevant benchmark index. We can see this by looking at the formula for each expressed in words:

Sharpe Ratio	Information Ratio
$\frac{\text{Return on the portfolio} - \text{Risk free rate}}{\text{Standard deviation of the portfolio}}$	$\frac{\text{Return on the portfolio} - \text{Benchmark return}}{\text{Standard deviation of the portfolio}}$

The ratio is similar to the Sharpe ratio, the difference being that instead of using risk free rate the portfolio return is compared with the benchmark return. If the information ratio exceeds the benchmark Sharpe ratio, then the active manager's performance has added value, as the extra return has more than compensated for the additional risk.

The information ratio is a highly useful tool when evaluating the performance of an active fund manager. Alpha is the indicator of the stock picking ability of a fund manager. The ratio finds out the incremental return generated by the fund manager for the incremental risk undertaken by the manager to deliver the alpha returns. The higher the active return for the incremental risk undertaken over the benchmark portfolio risk, the higher is the stock picking ability of a fund manager.

Higher information ratios indicate a desired level of consistency, whereas low information ratios indicate the opposite. A higher information ratio is therefore associated with superior skills of an active fund manager.

Sharpe Ratio and Sortino Ratio

The Sortino ratio is a variation of the Sharpe ratio in terms of the risk measure used to adjust the excess returns. Its formula is:

$$\text{Sortino ratio} = \frac{R_P - R_F}{\sigma_A} \quad \text{or} \quad \frac{\text{Portfolio return} - \text{Risk free rate}}{\text{Downside deviation}}$$

We can see from the formula that the difference is that instead of looking at total risk as measured by a portfolio's standard deviation, it only considers the downside risk. While the formula is similar to that of Sharpe ratio, it includes only those returns that are below a threshold or target return, which is also known as minimum acceptable return and which can be the risk-free rate, an index return, a target return or zero.

The Sortino ratio improves upon the Sharpe ratio by isolating downside or negative volatility from total volatility. The rationale for this is that upside volatility is what investors should look to target, and so this type of volatility should not be seen as negative and therefore be excluded from the equation. The Sharpe ratio punishes the investment for good risk, which provides positive returns for investors.

Just like the Sharpe ratio, a higher Sortino ratio result is better. A higher Sortino ratio is better than a lower one as it indicates that the portfolio is operating efficiently by not taking on unnecessary risk that is not being rewarded in the form of higher returns. A low, or negative, Sortino ratio may suggest that the investor is not being rewarded for taking on additional risk.

When looking at two similar investments, a rational investor would prefer the one with the higher Sortino ratio because it means that the investment is earning more return per unit of the bad risk that it takes on.

Using Sharpe Ratio and Sortino Ratio

Let us assume that we have two funds that have both returned 10% over a period, the risk-free rate is 1% and that their standard deviation and downside deviation:

	Fund A	Fund B
Standard deviation	10%	10%
Downside deviation	8%	6%

We can readily see that each of these funds with identical returns and identical standard deviations will have the same Sharpe ratio of (10 – 1)/10 = 0.9.

Once we take that a step further and look at the Sortino ratio we see the following:

	Fund A	Fund B
Portfolio return – risk-free rate	9%	9%
Downside deviation	8%	6%
Sortino ratio	1.125	1.5

We can see that Fund B has a higher value, given that it takes on less downside risk.

When looking at absolute returns, it is important to also take into consideration the amount of risk that was undertaken to achieve these returns and to make sure that you are compensated appropriately for taking on this risk. Sharpe and Sortino ratio are two statistics that allow us to effectively do just that.

Sharpe Ratio and the Appraisal Ratio

The appraisal ratio is useful for comparing any active management within a portfolio by reference to the performance of a passive tracker fund. It compares the fund's alpha to the portfolio's unsystematic risk or residual standard deviation.

Theoretically, if one ignores management charges, a tracker fund should produce exactly the same return as the relevant index and thus demonstrate zero tracking error. In other words, a tracker fund should have zero unsystematic risk. By determining the Sharpe ratio for an index or a tracker portfolio, one can determine the return benefit achievable per unit of risk faced from passive fund management.

The formula for calculating the appraisal ratio is: portfolio alpha ÷ portfolio unsystematic risk.

The appraisal ratio assesses this abnormal return by reference to the unrelated unsystematic risk carried in the client portfolio and not present in the benchmark portfolio (carrying pure systematic risk). If the appraisal ratio exceeds the benchmark Sharpe ratio, then the active performance has provided a superior return performance, as the extra return has more than compensated for the additional risk by reference to the capital market line.

2.3.4 Drawdown

Maximum drawdown is the maximum observed loss from a peak to a trough of a portfolio before a new peak is attained and so is an indicator of downside risk.

For clients, a very natural interpretation of risk relates to how much money may be lost. Maximum drawdown offers an understandable statistic that is easy to relate to and does not require an understanding of statistical measures such as volatility, standard deviation or risk adjusted measures. This makes them appealing to clients and also makes assumptions involving normally distributed returns.

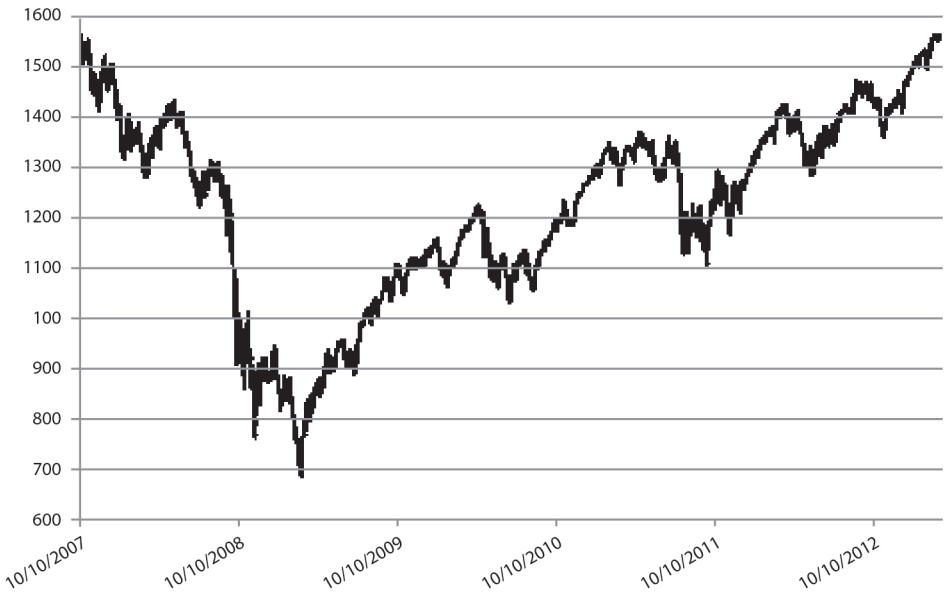
Drawdown still makes use of historical data to represent risk but offers a more intuitive approach that avoids complex statistics. Instead, it looks at loss of value relative to a high-water mark. As a simple example, if a portfolio had a value of $150,000 which then rose to £160,500 before falling to £155,750, one would say it had a drawdown of £160,500 – £155,750 = £4,750. This implies a mental accounting whereby an investor 'banks' gains, and records losses from the high point, hence the description of being a 'high-water mark' type of measure.

Maximum drawdown is defined as the peak-to-trough decline of an investment during a specific period and in practice is usually quoted as a percentage of the peak value. The formula to calculate maximum drawdown is:

$$\text{Maximum drawdown} = \frac{\text{(Peak value before largest drop – Lowest value before new high)}}{\text{Peak value}}$$

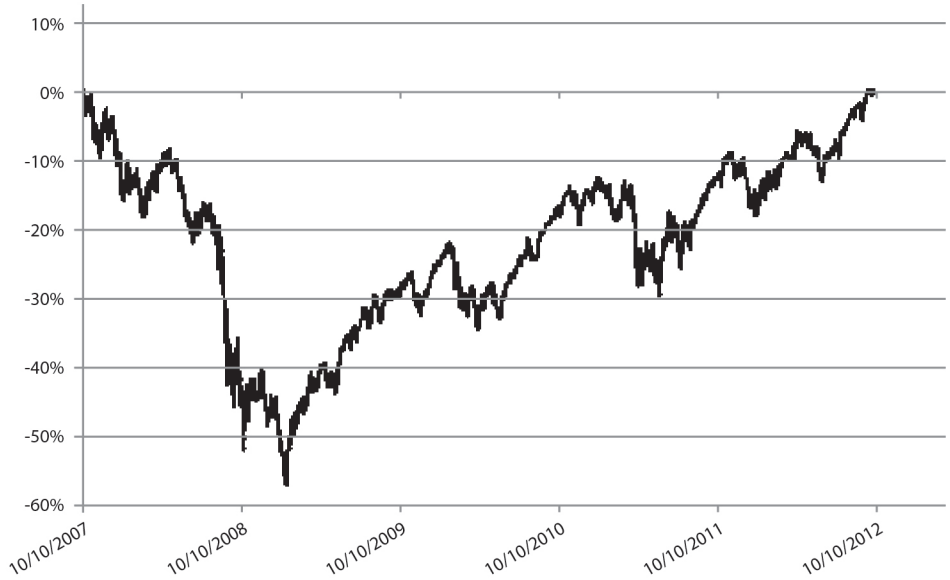
To provide an illustration of this, we can look at an example of the largest maximum drawdown seen on the S&P 500 that started during the great financial crisis. The peak took place on 10 October 2007 when the index closed at 1562.47; it then fell to a low of 676.53 at the close on 9 March 2000 and only regained a new high of 1562.85 at the close on 27 March 2013.

S&P 500



The next graph illustrates the same period using maximum drawdown where we can see that the maximum drawdown was 57%. The period from the peak to trough lasted 355 days and it then took a further 1021 days for the index to recover.

S&P 500 Maximum Drawdown



You can also calculate the maximum drawdown for a period such as the monthly or quarterly drawdown or use an average drawdown. You can then use the average drawdown to judge a market fall to put it into some context.

While many investors are concerned with the maximum drawdown of a portfolio, there is much less attention paid to its duration. Many investors believe that the duration of a drawdown is more painful than the magnitude. For example, you might have a flash crash that generated a maximum drawdown that lasts only a few weeks which may be less of a concern than one that lasts months or years.

3. Portfolio Review and Maintenance

Learning Objective

8.3.1 Understand the process of periodic review to meet key criteria: regulatory requirements; appropriate frequency, taking into account client requirements and the chosen investment strategy

8.3.2 Be able to apply key elements involved in managing a client portfolio: systematic and compliant approach to ongoing portfolio monitoring, review, reporting and management; selection of appropriate benchmarks to include market and specialist indices, total return and maximum drawdown; arrangements for regular client communication and meetings

8.3.3 Be able to apply measures to address factors that impact on the management of a client portfolio likely to require attention: changes in client circumstances and/or objectives; significant unanticipated market/price movements; changes to the anticipated pattern of cash inflows/outflows; changes in the financial/economic environment; changing regulatory environment; new products and services available; administrative changes or difficulties; investment-related changes (eg, credit rating, corporate actions); portfolio rebalancing/asset allocation constraints; benchmark review

8.3.4 Know the content of an investment report presented to a client and respond appropriately to their questions and feedback

3.1 Portfolio Monitoring and Reporting

A key requirement for an investment fund management team is the provision of current, reliable and useful reporting on the current state of a client's portfolio. Issuance of statements showing the deployment of funds and the returns currently achieved as well as historical summaries is just the basic requirement.

Given the complex nature of the investment possibilities available in the capital markets, the fact that clients may have exposure to different currencies, derivatives, hedge instruments and diverse asset classes, the task of presenting this information to a client becomes a major challenge for good investment managers.

Clearly the fund manager should be using state-of-the-art information technology and reporting software to generate timely information to a client, and this may often have to be available in real time and accessible via the internet or distributed electronically. The issuance of hard copy statements is often a formality as the client will require more immediate information than something which is out of date as soon as it is printed.

IT systems are a part of the systematic nature of portfolio reporting and in addition the fund manager will need to ensure that other relevant contextual information is provided to assist the client in making the best use of the information being provided. References to standard portfolio metrics should be included in the reports issued to clients including key ratios such as the Sharpe Ratio which will inform the client as to the risk/reward ratio of the portfolio. The investment skills and judgments of fund managers are in fact largely determined by the manner in which their performance is calibrated by such ratios.

Portfolio management should address issues of compliance. The actual execution of the portfolio management strategy should be monitored regularly to ensure satisfactory progress against stated objectives, costs/charges and performance criteria. Part of the investment management function is to regularly review the appropriateness and effectiveness of measures to manage risks.

Relevant documentation, registrations and other matters of compliance with legislation, reporting and taxation-related matters should be considered as vital to the portfolio monitoring process. In addition, the fund managers and his/her team need to keep abreast of all relevant changes in legislation and rules from financial regulators in order to ensure that they are complying with the most current methods of reporting and following industry 'best practice'.

The most appropriate method for client communication will be for information to be made available to clients on a current, probably real-time, basis via the internet. Many fund managers will provide clients with a monitoring facility which enables them to inspect their portfolio performance, at least in summary form, via web-based portals.

In addition, clients will need to receive periodic hard copy documents outlining portfolio performance as well as other material relating to compliance and taxation-related matters. Professional advisors of the client may often be the recipients of this information so that other financial management matters can be coordinated with investment management.

Meetings with clients should also be held periodically and at the specific request of the client.

3.2 Portfolio Reviews

Once a portfolio has been constructed for a client, it will clearly be necessary to keep this under review and adjust the portfolio or the investment strategy as a result of changes in the client's circumstances, the financial environment, or as a result of product changes.

It is important to ensure that the management of a client' portfolio is reviewed regularly. The frequency of review should be agreed with the client and should take into account any changes in the client's circumstances or requirements. For example, the portfolio may have been initially created to generate a capital return, while the client may now require a more cautious approach.

Changes in the performance of the underlying assets may also require a rebalancing of the asset allocation from time to time. For example, the outperformance of the equity holdings, compared with the other assets such as bonds and property, may move the portfolio significantly away from the strategic asset allocation agreed for the client and alter the risk profile of the overall portfolio. Portfolio rebalancing relates to adjustments in the levels of exposure to the various asset classes and should be reviewed as part of the scheduled portfolio review or earlier, if changes in the economic cycle mean that a greater or less exposure is required in other areas.

It is important to understand the need for rebalancing. On the one hand, a criticism levelled at rebalancing is that it forces wealth managers to take from the winners and add to the underperforming securities. On the other hand, rebalancing rotates from assets that become overvalued to those undervalued. Rebalancing, therefore, needs to be weighed against the strategy, client mandate and

the expected return and volatility. For example, a client signing up to a balanced strategy should have the reassurance that their portfolio always retains the shape and risk-adjusted profile of a balanced portfolio.

Various portfolio-balancing techniques can be employed to ensure that the asset allocation is adjusted to remain in line with what was originally agreed.

3.3 Client Reporting

A key element of an investment management service is the provision of current, reliable and useful reporting on the state of a client's portfolio.

Given the complex nature of the investment products available in markets, the fact that clients may have exposure to different currencies, asset classes and instruments then the task of presenting this information to a client presents a major challenge.

Sophisticated reporting software is now regularly used to generate investment reports for clients and is often available in real time and accessible via the internet or distributed electronically.

Reporting to clients usually falls into two main categories:

- **Occasional reporting** – eg, the issue of contract notes as and when trades are undertaken on behalf of a client.
- **Periodic reporting** – regular reports on the valuation of the portfolio and supporting statements.

Contract Notes

When trades are undertaken for clients, details of the transaction need to be sent to the client in the form of a contract note or written statement.

After a broker has executed a deal, their reporting system will automatically generate and issue a contract note. Some of the key details included on the contract note are:

- The name of the account for which the trade was undertaken.
- Details of the broker and whether the trade was executed by the broker as agent or principal.
- Date and time of the trade.
- Type of order (eg, market order / limit order) and the execution venue where the trade was executed.
- Details of the trade undertaken are:
  - whether it was a sale or purchase
  - name of the issuer and the number of shares or nominal value of stock traded, and
  - the price paid, charges and the net consideration for the trade.

Contract notes need to be issued to the client as soon as possible and regulatory rules will usually spell out the timescales that must be adhered to, such as no later than the business day following execution of the trade.

Periodic Reporting

Where a firm manage investment on behalf of a client, they must provide regular reports to the client on their investment portfolio, how the portfolio has performed and the transactions that have taken place. These are known as periodic reports.

The range of reports included in the periodic reporting pack to clients about their investment portfolios include:

- investment valuations
- performance reports
- transaction reports
- corporate action statements
- capital cash statements, and
- income statements.

Content of Periodic Reports	
Investment Valuations	• An investment firm will provide valuations of a client's investment portfolio on a regular basis. • The key features that should be contained in the valuation include: ◦ details of the client's holdings ◦ the price and value of each investment and the basis of valuation, eg, whether mid prices are used and any exchange rates used ◦ breakdown of the portfolio by asset class, market and sector.
Performance Reports	• When managing an investment portfolio on behalf of a client it is necessary to select a suitable benchmark against which the performance of the portfolio can be judged. • The periodic report needs to provide details of the performance of the portfolio and of the benchmark portfolio for comparison.
Transaction Reports	• A client needs to be advised of details of the trades that are undertaken within their portfolio. • This can be achieved by sending a contract note after the trade has been executed or including a statement as part of the periodic report pack with the same details.
Corporate Action Statements	• Within the periodic report pack, there will usually be a statement detailing the corporate actions that have taken place during the period covered by the report. • This will cover the terms of the corporate action and the impact on the client's holding.
Cash and income statements	• The capital cash statement will show details of the cash transactions that have taken place in the portfolio, while the income statement will itemise the dividends and interest received and any payments made.

Many firms will also issue a tax reporting pack at the same time or annually. The reporting pack will typically contain CGT reports and tax certificates. The CGT reports will show each holding within the portfolio, their base cost for CGT and the estimated gain or loss on sales. The tax certificate shows the consolidated picture of the dividends and interest received in the portfolio and should be structured in the same way as the income needs to be reported in the client's tax return.

Regulatory rules will spell out the frequency with which reports must be issued. These usually require periodic reports to be issued at least every six months, but the client can request that they are provided every three months instead.

3.4 Changes that can affect a Client Portfolio

3.4.1 Client Circumstances

Individual investors and institutional investors have varying objectives and expectations.

Clearly, before advising any client, an adviser or fund manager must be aware of these various needs, preferences, expectations and the financial situation of the client. The financial circumstances of the client are of course subject to change over time. Sometimes these changes can be anticipated and sometimes they will be almost completely unexpected.

With private clients there will be a number of circumstances that can lead to major changes in their objectives and the constraints. These include:

- inheritance
- illness
- marriage
- divorce, and
- change in employment, redundancy or retirement.

There are changes which can take place in any one of these areas and more. It may happen that, if a client loses a regular source of income, even temporarily, there may be a need to liquidate a part of the client's holdings in order to raise cash. To the extent that the current portfolio has an adequate allocation of cash and short-term money market instruments available (which it should have if the financial planning was done properly), this may not present any immediate issues. Obviously, selling a more liquid part of a portfolio will alter the balance of the remaining assets and will require a rebalancing exercise to be performed as per the client mandate. However, if there is sufficient liquidity across the entire portfolio, the wealth manager can sell assets evenly in line with the asset allocation.

If the client's need for cash is in excess of the current allocation of very liquid instruments, then the need to liquidate longer-term and perhaps fewer liquid holdings within the portfolio may be more consequential. The redemption of certain instruments may attract penalties and charges, the need to liquidate equities at a time when the overall market is performing poorly could lead to capital losses and loss of future dividend income and, if there are derivatives in a portfolio which have been used for tactical asset allocation, then the timing of the exit from derivatives contracts can be very sensitive and could trigger premature losses which would not have arisen if the instruments were held to maturity.

More generally, as a private client gets older and approaches retirement there will usually be a need to take less risk and focus on income rather than capital gains. Typically, this involves moving a portfolio away from equity investments and increasing the weighting in fixed-income investments.

The importance of reviewing the investment policy statement on a regular basis cannot be overstated. The investment policy statement may need to be revised as a result of changes in client circumstances, regulations, taxation and the market environment.

In practice, the adviser should ensure that they have a strict administrative process in place to ensure that the client mandate is reviewed, both at the agreed anniversary dates and during the interim period when any changes occur.

Capturing changes to the client's circumstances is a different matter. Some individuals like to keep their adviser informed and will contact them as and when changes occur or are anticipated. Indeed, part of the adviser's job should be to encourage this form of regular communication or information-sharing. For those clients who are less forthcoming, the adviser should take steps to schedule regular contact into their diary, to ensure that any changes or developments in the client's personal circumstances are known.

The adviser may also consider preparing a cut-down version of a fact find as a review questionnaire to send to the client in advance of the next review, which can incorporate changes to income/expenditure, employment, personal status, assets/liabilities and revised/new financial objectives. The completion of such a questionnaire can then be used to set the agenda for the next review meeting and means the adviser is prepared to discuss in outline what changes they feel may need to be made.

Changes to the client's personal circumstances may also require the input of other professionals, such as solicitors or accountants. Most firms have links with firms to whom they are happy to refer their clients for advice on matters relating to divorce, starting a new business or selling an existing business. If these links are not already in place, then it makes good business sense to arrange them and ensure that your clients are aware of these additional services.

3.4.2 Financial Environment

Economic changes can impact the portfolio and will require a review to assess their impact and determine a strategy for minimising their impact. Examples include a change to tax laws and rates of taxation of gains or income generated from within an investment portfolio, including amendments to legislation surrounding certain investment vehicles.

Financial innovation over the last 30 years has been extraordinary. The introduction of new products onto the market can also require a review, due to improved charging structures or additional features and benefits that were not offered by the original contract or were not available at the time. Equally, products can become unsuitable or tax changes may make products that were impractical a potential investment solution for clients. More recently, attitudes to tax planning may change, making anything other than conventional tax-saving schemes no longer acceptable.

Changes in the economic environment may affect the client's attitude to risk or their financial position. For example, job uncertainty can change the client's perception of risk and experiencing a major event such as the financial crisis can see clients become far more cautious than previously. Equally, the client's circumstances are unlikely to remain constant for very long. For instance:

- Changes in assets or income can take place relatively rapidly and have profound effects.
- Life events – marriage, parenthood, divorce, job move or retirement – can happen in a planned or unplanned way. The financial plan has to adapt to these events.
- The client's views and experience can mature and develop. The death or illness of a colleague or friend could increase the client's awareness of the need for protection. Increasing proximity to retirement could stimulate a greater interest in planning for the event.
- Economic and financial conditions change and this can affect how clients view their assets and the potential for return. For example, low interest rates prompted many investors to switch from deposit-based investments to alternative homes for their savings.

Although one would not expect investor objectives and long-term strategies to be changing in response to short-term market changes, there will inevitably need to be a reassessment of strategies in light of longer-term changes in the market environment.

- The risks of individual asset classes and the relationship between different asset classes will alter over time.
- New asset classes may also become accessible to private client investors.

If a portfolio has to be rebalanced following an unexpected development in client circumstances, then the investment manager should re-assess the entire strategic asset allocation. Rather than making piecemeal changes and attempting to re-implement a revised version of the previous allocation strategy, it would be preferable to devise a new strategic allocation which takes into account the new circumstances. This could lead to a reclassification of the investor's profile and risk tolerance characteristics.

3.4.3 Administrative Changes

The innovations just discussed as well as the changes in the operational side of the securities sector, including new multilateral trading facilities and other regulatory changes, continue to impose a severe burden on the compliance and fund administration functions within investment management.

At the same time there are pressures on fund managers from competitors and from poor performance by many fund managers to cut fees and charges.

3.4.4 Investment Related Changes

Credit ratings for corporate borrowers are regularly reviewed and are often revised in the light of changed economic conditions and/or changes in the outlook for an industry or the issuer's specific circumstances.

Rating agencies will signal they are considering a rating change by placing the security on CreditWatch (S&P), Under Review (Moody's) or on Rating Watch (Fitch Ratings).

Most revisions result in credit downgrades rather than upgrades. The price change resulting from a credit downgrade is usually much greater than for an upgrade, given that the price of a bond can fall all the way to zero, whereas there is a limit to how high a bond's price can rise.

Corporate Actions such as a rights issue will impact the pricing of securities and under certain circumstances the decision by a company to engage in a secondary offering or proposal to alter its capital structure might trigger a major response from the markets. Under these circumstances a decision may be made to change a portfolio holding in the wake of the proposed corporate action.

3.4.5 Portfolio Re-balancing

Earlier in this chapter the issue of making changes to the composition of a portfolio as a result of the need to liquidate certain holdings was discussed and how this will then require a re-balancing of the portfolio to reflect the changed circumstances.

If a portfolio has to be re-balanced following an expected development either in relation to client circumstances or to changes in the financial environment, the proper approach for an investment manager is to re-think the entire asset allocation strategy. Rather than making piecemeal changes and attempting to re-implement a revised version of the previous allocation strategy, it would be preferable to devise a new strategic allocation which takes into account the new circumstances. This could lead to a re-classification of the investor's profile and risk tolerance characteristics.

There are other circumstances of a more routine nature where a fund manager will re-balance a portfolio and to some extent the reasons why a fund manager may wish to re-balance are closely related to 'market timing' and active management strategies.

3.4.6 Benchmark Review

Once a portfolio has been constructed, the fund manager and client need to agree on a realistic benchmark against which the performance of the portfolio can be judged. The choice of benchmark will depend on the precise asset split adopted and should be compatible with the risk and expected return profile of the portfolio.

It is essential that the fund manager and client agree on the frequency with which the portfolio is reviewed, not only to monitor the portfolio's performance but also to ensure that it still meets with the client's objectives and is correctly positioned given prevailing market conditions.

A review of the benchmark may be required if it is no longer representative of the portfolio objective or contains assets which the portfolio no longer has exposure to.

Equally, an investment manager should review the suitability of the benchmark used each time and an assessment of the portfolio's performance is undertaken. Once the mathematical exercise of assessing the performance of the portfolio has been undertaken, the investment manager should be looking at performance against the benchmark and questioning why the portfolio over or under performed. In some cases, this will be due to the right asset allocation decisions but sometimes, it will also highlight that the agreed benchmark may not be the best one used for that client mandate.

End of Chapter Questions

Think of an answer for each question and refer to the appropriate section for confirmation.

1. What are the three main types of market index?
   Answer reference: Section 1.2

2. What is the relevance of free float in index construction?
   Answer reference: Section 1.2.2

3. What are some of the significant differences between an equity index and a bond index?
   Answer reference: Section 1.2.6

4. How does a composite benchmark differ from a single benchmark?
   Answer reference: Section 1.3.3

5. Distinguish between absolute and relative performance.
   Answer reference: Section 2.1.1

6. Performance attribution breaks down the performance of a portfolio and attributes it to what factors?
   Answer reference: Sections 2.2

7. What does a R-squared measure of close to 100 indicate?
   Answer reference: Section 2.3.2

8. Which risk-adjusted ratio uses downside deviation in its calculation and why?
   Answer reference: Section 2.3.3

9. Explain what is meant by the maximum drawdown sustained by a portfolio.
   Answer reference: Section 2.3.4

10. What should prompt the review of a selected benchmark?
    Answer reference: Section 3.4.6

Glossary

Account

The individual account for a single client, or a group of clients whose assets are held in a single nominee account.

Accrued Income

Interest that has been earned but not yet paid, such as with UK government bonds.

Accumulation Shares/Units

Shares or units in a portfolio that automatically have income reinvested.

Active Management

An investment approach employed to exploit pricing anomalies in those securities markets that are believed to be subject to mispricing by utilising fundamental and/or technical analysis to assist in the forecasting of future events and the timing of purchases and sales of securities. Also known as 'market timing'.

Active fund managers believe securities are mispriced and can spot opportunities to outperform the market through asset allocation and/or stock selection. See also Index Tracking and Passive Management.

The risk arising from active management in excess of the risk that would be incurred if the portfolio was passively managed (ie, the weighting differential versus the benchmark/index).

Annual General Meeting (AGM)

The annual meeting of directors and ordinary shareholders of a company. All companies are obliged to hold an AGM at which the shareholders receive the company's report and accounts and have the opportunity to vote on the appointment of the company's directors and auditors and the payment of a final dividend recommended by the directors.

Annuity

An investment that provides a series of pre-specified periodic payments over a specific term or until the occurrence of a pre-specified event, eg, death.

A fixed annual allowance. Normally paid in the form of a pension.

Arbitrage

The process of deriving a risk-free profit by simultaneously buying and selling the same asset in two related markets where a pricing anomaly exists.

Arithmetic Mean

A measure of central tendency established by summing the observed values in a data distribution and dividing this sum by the number of observations. The arithmetic mean takes account of every value in the distribution.

Asset Allocation

The distribution of investments across categories of assets, such as equities, bonds and cash. Active managers will change asset allocation to improve funds performance based on their forecast returns for each asset class.

Asset-class

Category of assets, eg, equities, bonds, property or cash.

Asset-Backed Securities (ABSs)

Same as Debentures. Bonds or notes backed by specific company assets. Similar to a mortgage.

Authorisation

Required status for firms that want to provide financial services.

Balance of Payments

A summary of all the transactions between a country and the rest of the world. The difference between a country's imports and exports.

Bank of England (BoE)

The UK's central bank. Implements economic policy decided by the Treasury and determines interest rates.

Base Currency

This is the first currency quoted in a currency pair on the FX markets. Eg, if you are looking at a USD/JPY quote then the base currency is the dollar.

Basis Point (bp)

One hundredth of one percent, ie, there are one hundred bp per 1%. Example 25bp = 0.25%.

Bear Market

A decline in a securities market. The duration of the market move is less relevant.

Benchmark

Target against which investment performance is measured. It may be an index or the average performance of similar portfolios.

Beneficial Owner

The true owner of a security, regardless of the name in which it is registered.

Beneficiaries

The beneficial owners of trust property. As stipulated in a trust deed and after any remaindermen have died.

Best Execution

Secure the best possible deal, taking into account all market conditions at the time of the transaction.

Bid Price

The price at which securities (or units in collective investment funds) are repurchased from the investor.

Bid-Offer Spread

Difference between the bid (selling) and offer (buying) prices.

Bloomberg

Company that provides market and investment information including real-time share prices.

Bond

Security issued by a corporate or government, to back borrowing. The issuer guarantees to repay the principal sum on redemption date plus interest (coupons) during the life of the bond. Bonds may be secured over assets of the firm, or unsecured.

Book Entry

Electronic settlement and record of ownership of a security.

Broker-Dealer

A stock exchange member firm that can act in a dual capacity both as a broker acting on behalf of clients and as a dealer dealing in securities on their own account.

Bull Market

A rising securities market. The duration of the market move is immaterial.

Business Cycle

See **Economic Cycle**.

Call Option

An option that confers a right on the holder to buy a specified amount of an asset at a pre-specified price on or sometimes before a pre-specified date.

Cancellation

Units in open-end funds are destroyed as cash is taken out of the fund (**Redemption**).

Capital

The money injected into a business by the shareholders and bondholders.

Capital Gains Tax (CGT)

Tax payable by individuals on profit made on the disposal of certain assets.

Capital Markets

The financial market for equity instruments and debt instruments with a maturity greater than one year.

Capitalisation

Total market value of share capital issued by a company. Calculated by multiplying the number of ordinary shares in free float by the price.

Central Bank

Those public institutions that operate at the heart of a nation's financial system. Central banks typically have responsibility for setting a nation's or a region's short-term interest rate, controlling the money supply, acting as banker and lender of last resort to the banking system and managing the national debt. They increasingly implement their policies independently of government control.

Central Securities Depository (CSD)

CSDs immobilise or dematerialise securities. CSDs may also clear and settle trades and offer safe custody (eg, Euroclear and Clearstream). CREST offers CSD facilities, settling trades in UK and overseas securities.

Certificated

Ownership designated by certificate.

Certificates of Deposit (CDs)

Certificates issued by a bank as evidence that interest-bearing funds have been deposited with it. CDs are traded within the money market.

Clearing

Confirmation of trade details with the counterparty or the exchange.

Closed-End

Organisations such as companies which are a fixed size as determined by their share capital. Commonly used to distinguish investments trusts (closed-end) from unit trusts and open-end investment companies (OEICs).

Collateral

A form of security, guarantee or indemnity provided by way of security for the discharge of any liability arising from a transaction.

Commercial Paper (CP)

Unsecured bearer securities issued at a discount to par by PLCs with a full stock exchange listing. CP does not pay coupons but is redeemed at par.

Commission

Fee paid to a broker for buying or selling a security. Usually a percentage of the cost. Investors also pay commission to independent financial advisers (IFAs).

Commodity

Items including sugar, wheat, oil and copper. Derivatives of commodities are traded on exchanges (eg, oil futures on ICE Futures Europe).

Concentration

The number of different shareholdings in a portfolio. The fewer the securities held, the more concentrated the portfolio is said to be.

Constraints

Limits or restrictions imposed on a portfolio manager in relation to stocks, sectors or markets.

Consumer Prices Index (CPI)

Measure of inflation used in many economies.

Contract

A standard unit of trading in derivatives.

Contract Note

A document sent to the investor on a purchase or sale being made, detailing the price at which the securities were bought or sold.

Convertible Bonds

Bonds issued with a right to convert into either another of the issuer's bonds or, if issued by a company, the company's equity, both on pre-specified terms.

Convexity

The non-symmetrical relationship that exists between a bond's price and its yield. The more convex the bond, the greater the price rise for a fall in its yield and the smaller the price fall for a rise in its yield. Also, see **Modified Duration**.

Core-Satellite Portfolio

The partitioning of assets between a core portfolio (lower risk/tracking funds) and more actively managed satellite funds.

Corporate Actions

Actions involving issued securities other than trading. The decision may come from the issuer (eg, distribution, redemption) or the holder (eg, conversion or exercise of warrants).

Corporate Bond

Securities issued by a company (as opposed to government). Investors accept credit risk in exchange for potentially greater returns.

Corporate Governance

The mechanism that seeks to ensure that companies are run in the best long-term interests of their shareholders.

Correlation

The degree of co-movement between two variables determined through regression analysis and quantified by the correlation coefficient. Correlation does not prove that a cause-and-effect or, indeed, a steady relationship, exists between two variables, as correlations can arise from pure chance.

Coupon

The predetermined rate of interest applying to a **Bond** over its term expressed as a percentage of the bond's nominal, or par, value. The coupon is usually a fixed rate of interest.

Credit Rating

Rating given to a company or institution by a credit-rating agency as an indication of the likelihood of default on its bonds or other debt. The highest (lowest risk) rating is AAA (triple A).

Credit Spread

Difference on the yield of a corporate bond compared with a government bond of a similar maturity. Credit spreads are higher for companies with lower credit ratings to compensate investors for the higher risk.

CREST

Electronic settlement system used to settle transactions for UK shares operated by Euroclear UK and Ireland ltd.

Currency Hedging/Currency Overlay

Reduction or elimination of exchange-rate risk using futures, forwards or options.

Currency Swap

An agreement whereby two counterparties agree to swap interest and principal in two different currencies.

Custody

Safekeeping of client assets. Firms are required to be able to identify client assets separately from firm's assets. The firm may use nominee accounts to pool securities of different clients. A global custodian is responsible for this operation on a worldwide basis. They may appoint local custodians (depots or sub-custodians) in certain countries.

Debenture

A corporate bond issued in the domestic bond market and secured on the issuing company's assets by way of a fixed or a floating charge.

Dematerialised (Form)

System where securities are held electronically without certificates.

Denomination

The size in units of a currency of a security.

Depositary

Back acting as custodian of the securities held by the sub-funds of an OEIC, by a unit trust or by a closed-end fund.

Depreciation

The charge applied in a company's accounts against its tangible fixed assets to reflect the usage of these assets over the accounting period.

Derivative

An instrument whose value is based on the price of an underlying asset. Derivatives can be based on both financial and commodity assets.

Dilution

Effect on EPS and book value per share if all the convertible securities are converted and all warrants and stock options were exercised. Also, the impact on a pooled fund of transaction costs due to investors' buying/selling.

Dirty Price

The price paid for a fixed-income stock, including accrued interest.

Discount Rate

The rate of interest used to establish the present value of a sum of money receivable in the future.

Discretionary

The client delegates decision-making to a third party, eg, discretionary portfolio management or discretionary stock lending (undertaken by the global custodian).

Diversification

Investment strategy of spreading risk by investing in a range of investments with uncorrelated returns.

Dividend

The distribution of a proportion of a company's distributable profit to its shareholders. UK dividends are usually paid twice a year and are expressed in pence per share.

Dividend Yield

Most recent **dividend** as a percentage of current share price.

Domicile

A taxpayer only has one domicile. This is the country s/he regards as their natural home. This is not necessarily the same as residence or nationality.

Earnings

Net profits of a company.

Earnings Yield

A company's EPS divided by its current share price. The inverse of the P/E ratio.

Economic Cycle

The course an economy conventionally takes as economic growth fluctuates over time. Also known as the **Business Cycle**.

Economic Growth

The growth of Gross Domestic Product (GDP) or Gross National Product (GNP) expressed in real terms, usually over the course of a calendar year. Often used as a barometer of an economy's health.

Economic Indicator

A statistic that gives an indication of current point of the economic cycle, eg, price inflation, unemployment figures, wage rises.

Economies of Scale

The resulting reduction in a firm's unit costs as the firm's productive capacity and output increases. Economies of scale are maximised and unit costs minimised at the minimum efficient scale (MES) on a firm's long-term average total cost (LTATC) curve. Beyond this point, diseconomies of scale set in.

Emerging Market

A developing or newly industrialised country. Low GDP per head. Can deliver high returns due to rapid pace of industrialisation, but can be risky due to poor legal protection, corporate governance, currency, custody & settlement risk, government corruption.

Environmental, Social and Governance (ESG)

Set of standards for a company that investors use to screen potential investments, assessed against their environmental credentials, how they manage relationships with stakeholders and their communities, and how matters such as leadership, pay and internal controls are managed.

Equalisation

The amount of distribution from a collective investment scheme that represents the return of initial capital to new investors.

Equilibrium

A condition that describes a market in perfect balance, where demand is equal to supply.

Equities

Ordinary shares, ie, the risk-taking part of a company's capital. Equity holders rank last in the event of the winding-up of a company and for income distribution.

Exchange-Traded Funds (ETFs)

ETFs are exchange-traded open-end funds that track an index. They are bought and sold on a stock market throughout the day and settle in dematerialised form. US ETFs include SPDRs, Webs, Diamonds, Cubes and Opals.

Ethical Investment

Strategy to invest only in companies that make a positive contribution to an ethical issue (or avoid a negative contribution). Examples include tobacco stocks, armaments manufacturers, alcohol producers, and gaming companies.

Eurobond

International bond issues denominated in a currency different from that of the financial centre(s) in which they are issued. Most eurobonds are issued in bearer form through bank syndicates.

Exchange Rate

Rate at which one currency can be exchanged for another.

Ex-Dividend (XD)

The period during which the purchase of shares or bonds (on which a dividend or coupon payment has been declared) does not entitle the new holder to this next dividend or interest payment.

Execution-Only

Instructions to buy or sell, given directly to a broker or fund manager without receiving any advice.

Expiry

The date on which an option or warrant expires.

Ex-Rights (XR)

The period during which the purchase of a company's shares does not entitle the new shareholder to participate in a rights issue announced by the issuing company. Shares are usually traded ex-rights (XR) on or within a few days of the company making the rights issue announcement.

Fair Value

The theoretical price of a futures contract.

Fiduciary Duty

An individual in whom another has placed the utmost trust and confidence to manage and protect property or money. The relationship wherein one person has an obligation to act for another's benefit.

Financial Conduct Authority (FCA)

The UK regulator responsible for business conduct of fund management, product selling, broker-dealer firms, banks, market abuse and investor compensation.

Fiscal Policy

The use of government spending, taxation and borrowing policies to either boost or restrain domestic demand in the economy so as to maintain full employment and price stability. Also known as Stabilisation Policy.

Fixed-Income Securities

Bonds and preference shares. Holder receives a regular fixed income. This may be waived in the case of preference shares.

Flat Rate

The annual simple rate of interest applied to a cash deposit.

Flat Yield

See **Running Yield**.

Floating Rate Notes (FRNs)

Debt securities issued with a coupon periodically referenced to a benchmark interest rate.

Floor

A package of interest rate options whereby at each of a series of future fixing dates, if the agreed reference such as LIBOR is lower than that of strike rate, the option buyer receives the difference between them, calculated on an agreed notional principal amount for the period until the next fixing date. See **Collar**.

Flotation

First issue of shares by a company on a stock exchange. An example of an initial public offering (IPO).

Forex or FX

Abbreviation for foreign exchange trading.

Forward

A derivatives contract that creates a legally binding obligation between two parties for one to buy and the other to sell a pre-specified amount of an asset at a pre-specified price on a pre-specified future date. As individually negotiated contracts, forwards are not traded on a derivatives exchange.

FTSE 100

Main UK share index of 100 leading shares (pronounced 'Footsie').

Fund

Usually, a single asset class over which several investors have pooled ownership.

Fund Manager

Firm that invests money on behalf of its customers.

Fund of Funds

A fund of funds is a multi-manager fund. It has one overall manager that invests in a portfolio of other existing investment funds and seeks to harness the best investment manager talent available within a diversified portfolio.

Fundamental Analysis

The calculation and interpretation of yields, ratios and discounted cash flows (DCFs) that seek to establish the intrinsic value of a security or the correct valuation of the broader market. The use of fundamental analysis is nullified by the semi-strong form of the efficient markets hypothesis (EMH).

Future

A derivatives contract that creates a legally binding obligation between two parties for one to buy and the other to sell a pre-specified amount of an asset on a pre-specified future date at a price agreed today. Futures contracts differ from forward contracts in that their contract specification is standardised so that they may be traded on a derivatives exchange.

Future Value

The accumulated value of a sum of money invested today at a known rate of interest over a specific term.

Gearing

The amount of borrowing versus debt on a company's balance sheet (net debt/ordinary shareholders' funds). Warrants and options also exhibit gearing, ie, a small move in the price of the underlying asset can be magnified in the movement in the price of the option.

Geometric Mean

A measure of central tendency established by taking the nth root of the product (multiplication) of n values.

Gilts

UK government securities issued primarily to finance government borrowing. Also see Public Sector Net Cash Requirement (PSNCR).

Gross Domestic Product (GDP)

A measure of the level of activity within an economy. More precisely, GDP is the total market value of all final goods and services produced domestically in an economy typically during a calendar year.

Gross Redemption Yield (GRY)

The annual compound return from holding a bond to maturity, taking into account both interest payments and any capital gain or loss at maturity. Also known as the yield to maturity (YTM).

Growth Stock

Company that is expected to achieve higher than average earnings growth. Growth stocks usually have a high P/E ratio relative to the market as a whole.

Hedge

Taking an opposite position to the main strategy of a portfolio. For example, the sale of futures contracts or purchase of put options, could limit or prevent a loss in the event of a market decline.

Hedge Fund

A limited partnership with few investment restrictions. Usually based offshore (eg, Cayman Islands) but shares in the fund are often quoted in Luxembourg or Dublin. Hedge funds can use a number of strategies including sell short, ie, sell stock they do not own to profit from price falls. Some hedge funds gear up to increase leverage (may result in large losses, eg, LTCM).

Hedging

A technique employed to reduce the impact of adverse price movements in financial assets held, typically by using derivatives.

Holder

Investor who buys put or call options.

Income

Receipts from earnings or investments owned.

Income Tax

Tax paid on earned and unearned income by UK investors.

Index

A basket of shares/bonds to provide a benchmark for performance measurement. May be single sector/country, regional or global.

Inflation

The rate of change in the general price level or the erosion in the purchasing power of money.

Inheritance Tax (IHT)

Tax on the value of an estate when a person dies.

Initial Public Offering (IPO)

The first issue of any class of security.

Internal Rate of Return (IRR)

The discount rate that when applied to a series of cash flows produces a net present value (NPV) of zero. Also known as the discounted cash flow (DCF) yield.

Interpolation

A method by which to establish an approximate internal rate of return (IRR).

Intrinsic Value

The amount by which the exercise price of an option or warrant is in-the-money.

Invest

To employ (money) in the purchase of anything from which interest or profit is expected.

Investment Bank

Business that specialises in raising debt and equity for companies.

Investment Trust

A company whose shares are quoted on the London Stock Exchange (LSE), with a fixed number of shares. The company invests in shares of other companies. The value of the shares in the fund is set by supply and demand as well as the value of the fund (NAV). Closed-end funds.

Junk Bond

Bond that has been given a low rating by the credit-rating agencies.

Liabilities

Money owed.

Limit Order

Order type used on a system such as SETS. If not completed immediately, the residual quantity is displayed on the screen as part of the relevant queue.

Liquidity

The ease with which a security can be traded in a market or converted into cash. Liquidity is determined by the amount of two-way trade conducted in a security. Liquidity also describes that amount of an investor's financial resources held in cash.

Liquidity Risk

The risk that shares may be difficult to sell at a reasonable price.

London Metal Exchange (LME)

Market for trading in derivatives of certain metals such as copper, zinc and aluminium.

London Stock Exchange (LSE)

The UK market for listing and trading domestic and international securities.

Long Position

The position following the purchase of a security or buying a derivative.

Macroeconomics

The study of how the aggregation of decisions taken in individual markets determines variables such as national income, employment and inflation. Macroeconomics is also concerned with explaining the relationship between these variables, their rates of change over time and the impact of monetary and fiscal policy on the general level of economic activity.

Mandate

Contractual description of the service that a client will receive from the institution (eg, investment management, custody).

Mark-to-Market

Valuing the price of a stock or portfolio on a daily basis, to record profits/losses.

Market

All exchanges are markets – electronic or physical meeting places where assets are bought or sold.

Market Capitalisation

The total market value of a company's shares or other securities in issue. Market capitalisation is calculated by multiplying the number of shares or other securities a company has in issue by the market price of those shares or securities.

Maturity

Date when the capital on a bond is repaid.

Medium-Term Notes (MTNs)

Medium-dated loan stock with maturity of five to ten years.

Memorandum of Association

The legal document that principally defines a company's powers, or objects, and its relationship with the outside world. The Memorandum also details the number and nominal value of shares the company is authorised to issue and has issued.

Mode

A measure of central tendency established by the value or values that occur most frequently within a data distribution.

Modified Duration (MD)

A measure of the sensitivity of a bond's price to changes in its yield or interest rates. MD approximates a bond's convexity.

Momentum

Extent to which prices are influenced by strong investor buying/selling.

Monetary Policy

The setting of short-term interest rates by a central bank in order to manage domestic demand and achieve price stability in the economy. Monetary policy is also known as stabilisation policy.

Money

Anything that is generally acceptable as a means of settling a debt.

Money Laundering

Aiding drug traffickers, arms dealers and other criminals to invest their proceeds and take 'clean' money out of the system. An international criminal offence. It is an offence not to report the suspicion of money laundering by a client.

Money Markets

Short-dated securities, eg, Treasury bills, CDs, or CP. Compete with liquid funds (eg, cash deposits).

National Association of Securities Dealers Automated Quotations (NASDAQ)

The second-largest stock exchange in the US. NASDAQ lists certain US and international stocks and provides a screen-based quote-driven secondary market that links buyers and sellers worldwide. NASDAQ also operates a stock exchange in Europe (NASDAQ OMX Europe).

Net Asset Value (NAV)

This is the aggregate value of the securities in a fund, net of liabilities (eg, charges or a tax manager's fee). This value is used as the basis for valuing the units (or shares) in a collective investment fund. A company's break-up value. Used by value investors as a measure of the price to pay for a company's shares.

Net Present Value (NPV)

The result of subtracting the discounted, or present, value of a project's expected cash outflows from the present value of its expected cash inflows.

New Issue

A new issue of ordinary shares whether made by an offer for sale, an offer for subscription or a placing. Also known as an initial public offering (IPO).

Nikkei 225

Main Japanese **share** index.

Nominal Value

The face or par value of a security. The nominal value is the price at which a bond is issued and usually redeemed and the price below which a company's ordinary shares cannot be issued.

Offer Price

Price at which dealers sell stock. The price at which securities (or units in a collective investment fund) are sold to the investor.

Open Economy

Country with no restrictions on trading with other countries.

Open-end Funds

For example, OEICs and unit trusts (mutual funds in the US). Cash inflows from new investors increase the NAV of the fund and new units are created. Redemptions (outflows) from the fund cause the NAV to shrink. Investors' units are repurchased and may be cancelled.

Open Offer

Offer to shareholders where they can apply to increase the allocation made to them, but offer to buy the rights not taken up by others.

Ordinary Shares

Shares which confer full voting and dividend rights to the owner.

Over-the-Counter (OTC) Derivatives

Derivatives that are not traded on a derivatives exchange owing to their non-standardised contract specifications. They are bilateral transactions.

Par Value

The nominal (or face) value of a security. Fixed-income securities are usually redeemed at par. It is generally illegal for a company to issue its shares at a discount to par.

Placing

A new issue may be placed with a small number of institutions, thus reducing the costs.

Plain Vanilla or Vanilla Swap

A swap which has a very basic structure in which the counterparties to the trade exchange a fixed rate for a floating rate, and the notional principal amount is the same over the life of the swap.

Population

A statistical term applied to a particular group where every member or constituent of the group is included.

Portfolio

Group of assets to meet the needs of a specific investor.

Preference Shares

Fixed-income shares which pay a fixed dividend (which is quoted as a net percentage of par). Preference dividends must be paid before ordinary dividends, but the dividend may be passed. Preference shareholders rank above ordinary shareholders if the company is wound up.

Premium

The amount of cash paid by the purchaser/holder of an option to the writer in exchange for conferring a right. Also, the difference in the spot and forward-exchange rate that arises when interest rates in the base currency are higher than those in the quoted currency. For example, the share price of an investment trust may be above the NAV and is said to be at a premium. Also, the price paid to buy the option.

Present Value

The value of a sum of money receivable at a known future date expressed in terms of its value today. A present value is obtained by discounting the future sum by a known rate of interest.

Private Equity

Unquoted shares in a company. May never have been listed on the stock exchange or may have been issued to raise capital in a buyout (eg, MBO).

Prospectus

Legal document accompanying the issue of shares in a share class by a company or investment fund. Contains details of investment objectives and charges.

Proxy

The means by which the beneficial owner instructs their representative to vote at a shareholder meeting. An appointee who votes on a shareholder's behalf at company meetings.

Put Option

An option that confers a right but not the obligation on the holder to sell a specified amount of an asset at a pre-specified price on or sometimes before a pre-specified date.

Real Assets

Investments that are tangible, eg, property or commodities. The prices are expected to keep pace with inflation.

Real Rate of Return

Nominal return adjusted for inflation.

Redemption

The repayment of principal to the holder of a redeemable security. Cash taken out of an open-end fund.

Redemption Date (Maturity)

The end of a fixed period, when the nominal value of a redeemable security will be repaid to the investor.

Registrar

An official of a company who maintains the share register.

Reinvestment Risk

The inability to reinvest coupons at the same rate of interest as the GRY. This, in turn, makes the GRY conceptually flawed.

Residence

There is no statutory definition of residence. It is where a person lives. A person may have more than one residence or no residence at all. In the UK, a person is generally deemed resident for tax purposes if he/she is physically present in the UK for six months within a tax year, or makes habitual and substantial visits to the UK.

Resistance Level

A term used in technical analysis to describe the ceiling put on the price of a security resulting from persistent investor-selling at that price level.

Resolution

A proposal on which shareholders vote.

Retained Earnings

The part of a company's profit that is not paid away as a dividend. Used to produce future earnings.

Return on Equity (ROE)

Company earnings divided by the NAV.

Rights Issue

The issue of new ordinary shares to a company's shareholders in proportion to each shareholder's existing shareholding, usually at a price deeply discounted to that prevailing in the market. Also, see **Pre-emption Rights**.

Sample

A statistical term applied to a representative subset of a particular population. Samples enable inferences to be made about the population.

Secondary Market

Marketplace for trading in existing securities.

Securities

Bonds and equities.

Securitisation

The packaging of rights to the future revenue stream from a collection of assets into a bond issue.

Settlement

The delivery or receipt of securities in exchange for payment.

Share Buyback

The redemption and cancellation by a company of a proportion of its irredeemable ordinary shares subject to the permission of the Court and agreement from tax authorities.

Share Capital

The nominal value of a company's equity or ordinary shares. A company's authorised share capital is the nominal value of equity the company may issue, while issued share capital is that which the company has issued. The term share capital is often extended to include a company's preference shares.

Shares

Form of security that represents a shareholder's stake in a company (see equities and preference shares).

Short Position

The position following the sale of a security not owned or selling a derivative.

Short Selling

Selling more of an asset than the investor owns in order to make a profit once the price falls. This is usually not permitted for authorised funds and pension funds but may be a strategy of hedge funds. The fund will need to borrow stock to cover a short position.

Speculate

To engage in the buying or selling of an asset, in order to profit by a change in the market price.

Split

Where a company splits one share into several, with a corresponding reduction in the share price and the par value.

Spot

Spot price or spot rate is the current prevailing price/rate. This would apply to deals for standard settlement, ie, not a forward.

Spread

The difference between the bid and offer prices.

Stamp Duty

Tax on purchases of certain assets.

Stock Exchange

An organised market place for issuing and trading securities by members of that exchange.

Stock Lending

An agreement to lend securities. Title of ownership is transferred to the counterparty and the borrower of the stock pays a fee to the lender. Voting rights transfer to the borrower, but any income is usually repaid to the lender.

STRIPS

The principal and interest payments of those designated government bonds (known as gilts in the UK) that can be separately traded as zero coupon bonds. STRIPS is the mnemonic for Separate Trading of Registered Interest and Principal.

Swap

An OTC derivative whereby two parties exchange a series of periodic payments based on a notional principal amount over an agreed term. Swaps can take the form of interest rate swaps, currency swaps, commodity swaps and equity swaps.

T+2

The term T+2 identifies when a trade will settle. T refers to the trade date and T+2 identifies that the transaction will settle two business days after the trade date.

Takeover

When one company buys more than 50% of the **shares** of another.

Technical Analysis

The analysis of charts depicting past price and volume movements to determine the future course of a particular market or the price of an individual security. Technical analysis is nullified by the weak form of the efficient markets hypothesis (EMH).

Tender

A method of setting prices for new issues. Potential investors are asked to tender an amount and price.

Time Value

That element of an option premium that is not intrinsic value. The term 'time value' also relates to a sum of money which, by taking account of a prevailing rate of interest and the term over which the sum is to be invested or received, can be expressed as either a future value or as a present value, respectively.

Treasury Bills

Short-dated securities issued by the central bank, to finance government expenditure. Treasury bills do not pay coupons but are redeemed at par.

Trust

A means of holding assets (legally owned by trustees) on behalf of underlying beneficial owners. Investment portfolios within a trust may be professionally managed, eg, a charitable trust or unit trust.

Trustee

An individual or a group of people or independent institution responsible for the management of the trust, as defined by the trust deed. The trustees have the power to veto any investment they feel does not adhere to the trust deed.

Trustees

The legal owners of trust property who owe a duty of skill and care to the trust's beneficiaries.

Underwriter

A firm that agrees to underwrite a new issue, for a fee, thereby guaranteeing the securities will be sold.

Unit Trust

A fund whereby money from investors is pooled together and invested collectively on their behalf into an open-end trust.

Venture Capital

New capital injected into a company to pay for further developments, research and development, or to improve the balance sheet.

Volatility

A measure of the extent to which investment returns, asset prices and economic variables fluctuate. Volatility is measured by the standard deviation of these returns, prices and values.

Warrants

Negotiable securities issued by PLCs that confer a right on the holder to buy a certain number of the company's ordinary shares on pre-specified terms. Warrants are essentially long-dated call options but are traded on a stock exchange rather than on a derivatives exchange.

Weighting

Percentage holding of a security in a portfolio, relative to the percentage (weight) in the underlying benchmark. Underweight means the portfolio holds a smaller percentage than that in the benchmark. Overweight portfolios hold a higher percentage.

Withholding Tax

Tax deducted from investment income that is paid to foreign investors. May be offset against the investor's domestic tax liability.

Yield

The interest earned on holding a security. Derived from coupon or dividends.

Yield Curve

The depiction of the relationship between the gross redemption yields (GRYs) and the maturity of bonds of the same type.

Zero Coupon Bonds (ZCBs)

Bonds issued at a discount to their nominal value that do not pay a coupon, but which are redeemed at par on a pre-specified future date.

Multiple Choice Questions

The following additional questions have been compiled to reflect as closely as possible the examination standard that you will experience in your examination. Please note, however, they are not the CISI examination questions themselves.

Please note that, as part of exam security, hand-held calculators are not allowed in CISI exam venues. Candidates must use the onscreen calculator for all CISI CBT exams in all languages in the UK and internationally.

1. An investment fund had a fund value of $36 million at the start of the year and was valued at $35,136,000 at the end of the year. The asset allocation of the fund was 60% in equities and 40% in bonds. The benchmark used for the fund assumed an asset allocation of 70% in equities and 30% in gilts and over this period equities produced a negative return of 6% and bonds produced a positive return of 3%.

Consequently, the fund has:

A. Underperformed its benchmark by $108,000
B. Outperformed its benchmark by $108,000
C. Outperformed its benchmark by $324,000
D. Underperformed its benchmark by $324,000

2. Which of the following is an indication of a successful active fund manager and a well-diversified portfolio?

A. Low Treynor ratio
B. High standard deviation
C. High Sharpe ratio
D. Low information ratio

3. Which of the following factors might be taken into account to determine an adult individual's tax residency?

A. Availability of accommodation, regularity of visits, and time spent
B. Days spent in the country, property ownership, and domicile of dependency
C. Physical presence, property ownership and nationality
D. Undertaking full time work, days spent in the country and domicile of dependency

4. With regards to suitability of advice, when assessing a client's knowledge and experience a firm would typically gather information on which ONE of the following?

A. The client's profession
B. The client's age
C. The client's financial position
D. The client's tax status

5. **Investor A invested £2,200 in OEICs.**

   Investor B invested £4,800 in exchange-traded funds.

   Investor C invested £6,300 in investment trusts.

   Investor D invested £8,500 in unit trusts.

   Which one of the following statements is TRUE?

   A. Only Investor A has invested in an open-end fund
   B. Only Investor C has directly invested in the fund`s underlying investment
   C. Only Investors A, B and D`s investments triggered an increase in fund size
   D. Only Investors B, C and D`s investments triggered the creation of new units or shares

6. **Asset allocation is used in portfolio construction as a strategy to achieve what objective?**

   A. Building of wealth and increase of risk
   B. Building of wealth and reduction of risk
   C. Preservation of capital and increase of risk
   D. Preservation of capital and the reduction of risk

7. **You are an investment adviser and reviewing a client file where you notice that the client has advised that they are now a higher rate taxpayer. The client holds substantial fixed term deposits. What action if any should be taken?**

   A. It should be resolved immediately by withdrawing the fixed term deposits and reinvesting for tax efficiency
   B. No action is necessary as the investment has not completed its fixed term
   C. The investments still meet their original needs so no action is required
   D. Make contact with the client and explain the investment may no longer be suitable

8. **What is a drawback of stochastic modelling?**

   A. It is only suitable for equity investments, given the nature of the model components
   B. It is too complex for individual clients and only used by investment professionals
   C. It does not sufficiently provide clarity on investment risks in order to support the financial advice process
   D. The results are reliant on the assumptions made within the model components

9. **One of the characteristics of an open-end fund that is attractive to most investors is:**

   A. Since they are open-end, they cannot trade at a discount to their net asset value
   B. Their structure allows them to invest in only one fund at a time, to limits any risks, such as FX risk
   C. They are closed-ended, therefore can trade at a discount or premium to its net asset value
   D. Since they do not have any dealing charges, their bid-offer spread can be wide when liquidity is limited

10. A fund manager is trying to classify the different types of risks which exist in relation to the assets held within the fund.

- Risk 1 – a rise in inflation adversely affects returns.
- Risk 2 – a poor performance by a particular company depresses its share price.
- Risk 3 – a tariff imposed on cars being imported into a specific country reduces a particular company's profit levels.
- Risk 4 – a fall in the value of sterling against other currencies impacts on equity prices.

Which of the following statements is true?

A. Only Risks 1 and 4 can normally be classed as systematic risk
B. Only Risks 3 and 4 can normally be classed as diversifiable risks
C. Only Risks 1 and 3 can normally be classed as specific risks
D. Only Risks 2 and 3 can normally be classed as market risks

11. As part of the rebalancing of a portfolio, a portfolio manager decides to sell and buy similar bonds in all respects apart from the yield on which both trade. The result is that the underlying client moves out of the more to the less highly priced bond. This process is known as which one of the following?

A. Bond switching
B. Anomaly switching
C. Redemption switching
D. Price switching

12. Which ONE of the following products is likely to be most suitable for a client with a need for high liquidity allied to a short investment timescale?

A. High yield bonds
B. Large-cap equities
C. Real estate investment trusts
D. Short-dated bonds

13. A client has a need for a high level of income and has a cautious attitude to risk. Based solely on this information, which of the following asset allocations would be least suitable?

A. Cash 15%; Bonds 60%; Equities 20%; Property 5%
B. Cash 10%; Bonds 50%; Equities 30%; Property 10%
C. Cash 5%; Bonds 40%; Equities 50%; Property 5%
D. Cash 5%; Bonds 30%; Equities 60%; Property 5%

14. In relation to tracking methods employed by exchange-traded funds, which of the following best explains the benefits of stratified sampling?

A. It enables the fund to reduce tracking errors and dealing costs

B. It ensures that the fund and the indices are 100% correlated and eliminates tracking errors

C. It enables the fund to replicate an index by using derivatives only and reduces brokers' commission

D. It enables the fund managers to create an ETF from a sample of companies with DRIPs which allows the fund to accumulate shares, while distributing cash in lieu to holders

15. Which statement concerning corporate governance principles is correct?

A. BIS issues the global compact principles

B. OECD issues the benchmark governance principles

C. United Nations issues the governance principles for banks

D. World Bank issues the corporate governance principles

16. Which statement concerning the types of domicile is correct?

A. A child born during the lifetime of their father has the same domicile as their father

B. A child born during the lifetime of their mother has the same domicile as their mother

C. A child of married parents retains the domicile of their father after his death

D. A child of unmarried parents has the domicile of their father

17. In Islamic finance, an investment partnership in which profit-sharing terms are agreed in advance, and losses are pegged to the amount invested is known as:

A. *Ijara*

B. *Mudarabah*

C. *Murabaha*

D. *Musharakah*

18. How are reclaims made for withholding tax?

A. Tax must be reclaimed in the investor's country of domicile

B. Tax reclaims are automatically provided under double taxation treaties

C. Tax reclaims must be made in the issuer's country

D. The timing of claims for tax is subject to global standards

19. XYZ plc announces a one for three rights issue at £2.95 per share. If the shares are trading at a cum-rights price of £4.48, what is the theoretical ex-rights share price?

A. £3.3325
B. £4.0975
C. £4.4050
D. £4.5900

20. Company A is the parent company of Company B, in which a minority interest remains. When preparing the group accounts for Company A:

A. the value of the investment will be shown in the statement of financial position
B. the value of the minority interest will be shown as goodwill
C. the whole value of the assets and income of company B are shown in the group balance sheet and income statement
D. the percentage owned of the value of the assets and income of company B are shown in the group balance sheet and income statement

21. Which statement concerning tax mitigation is correct?

A. Advisers should maximise all loopholes within the tax legislation
B. If an adviser finds that a client has hidden assets from the taxman they should respect client confidentiality
C. It involves operating within ways intended by the rules
D. Reporting all of a person's affairs to the tax authorities is an essential requirement

22. Which of the following is the best description of benchmarking?

A. The monitoring of the overall performance of a portfolio by comparison to a peer group
B. The setting of realistic targets for profits upon each asset purchase
C. The financial analysis and comparative analysis of direct products sectors
D. The plotting of prices of identical assets trading on multiple regulated markets and MTFs

23. Which of the following correctly states the factors considered in the triple bottom line approach?

A. Board responsibilities, duties to shareholders and stakeholder engagement
B. Economic, social and environmental
C. Shareholder, stakeholder and corporate social responsibility
D. Stakeholder participation, stewardship and environmental

24. At what stage should the strategic asset allocation of a portfolio be adjusted?

A. On a frequent pattern based on the valuation of the asset classes in which the portfolio is invested

B. As market conditions or the client's requirements or circumstances change

C. To achieve solid risk-adjusted returns by avoiding large maximum drawdowns

D. To move to funds that will maintain value or perform positively in changed market conditions.

25. You are analysing a number of money market funds to identify which is most suitable as a short term home for your client's cash reserve. Based on the following information which fund would be most suitable if the client has a cautious attitude to risk?

A. Fund A has a WAM of 60 days and a WAL of 120 days

B. Fund A has a WAM of 90 days and a WAL of 180 days

C. Fund A has a WAM of 100 days and a WAL of 200 days

D. Fund A has a WAM of 180 days and a WAL of 360 days

26. Which statement concerning the tax treatment of accrued interest on the sale of a bond cum-interest is correct?

A. Accrued interest paid on the sale of a bond is treated as capital

B. Accrued interest paid on the sale of a bond is treated as taxable income

C. Accrued interest received on the sale of a bond is treated as capital

D. Accrued interest received on the sale of a bond is treated as taxable income

27. Which of the following is true of a stock split and a bonus issue?

A. An alternative name for a stock split is a consolidation, and for a bonus issue is a scrip issue

B. Both a bonus issue and stock split decrease total market capitalisation

C. Only a stock split reduces nominal value

D. Only a bonus issue reduces share price

28. An adviser is conducting a fact-finding meeting with a client. While it is important that a complete picture is formed, the MOST important outcome of the fact-finding process, is a clear understanding of the investor's:

A. assets and liabilities

B. attitude to risk

C. income and expenditure

D. needs and objectives

29. An investor who believes that efficient market hypothesis (EMH) is correct would favour which type of fund?

A. Hedge fund
B. Exchange-traded fund
C. Emerging markets fund
D. Global equity fund

30. In what way will a cash flow statement aid in the investment advice process?

A. It should help quantify the amount of income that needs to be generated from investments to meet the client's income requirement
B. It should identify any mismatch between the client's risk profile and the overall portfolio
C It should show how much income is subject to tax at higher rates, to highlight the opportunities for higher rate tax relief on pension contributions and other payments
D. It should help assess the use of inappropriate wrappers in relation to the underlying investments held in the wrapper

31. ABC European investment trust has gearing of 20%. If European markets fall sharply across the board, what would you expect the performance of the trust to be?

A. It would fall faster than the market
B. It would not fall as fast as the market
C. It would rise, but at 40% of the amount by which the market fell
D. It would rise at 140% of the amount by which the market fell

32. What is the holding period return to an investor who holds $1,000 nominal value of a bond with three years to maturity, paying a coupon of $17.50 p.a., and which is currently valued at $964?

A. 5.55%
B. 1.85%
C. 6.91%
D. 9.18%

33. A portfolio of shares has experienced the following annual returns recently: 2009: 3.22%; 2008: (6.74%) (negative); 2007: 11.56%. What is the variance (assume a population)?

A. 0.5596%
B. 0.8394%
C. 0.3487%
D. 0.6206%

34. If a company changes its depreciation method and the depreciation charge increases, the impact of this is to:

A. Reduce physical cash flow and fixed assets

B. Increase physical cash flow and fixed assets

C. Reduce profit and fixed assets

D. Increase profit and fixed assets

35. Which of the following investment services would be described as bespoke discretionary management?

A. A firm has a range of unitised versions of model portfolios based on a mix of top-down and bottom-up methodologies

B. A firm only offers model portfolios that are created on a top-down basis by its asset allocation committee

C. A firm provides discretionary investment management where portfolio construction and investment changes are determined by client needs

D. A firm provides discretionary investment management where portfolios are managed in line with models but with limited flexibility to meet client constraints

36. ABC plc announces a one for four bonus issue. What will be the % dilution in the price per share as a result of the issue?

A. Reduced by 25%

B. Reduced by 20%

C. No change

D. Not possible to specify

37. A financial adviser has recommended that their UK based client adopt the following investment allocation strategy.

- Asset Class 1 – international equities (30%)
- Asset Class 2 – UK equities (30%)
- Asset Class 3 – government bonds (25%)
- Asset Class 4 – corporate bonds (10%)
- Asset Class 5 – cash (5%)

When considering the client's diversification requirements, it should be noted that:

A. diversification benefits among Asset Classes 2, 3 and 4 are only likely to be maximised in times of low interest rates

B. diversification benefits between Asset Class 1 and 2 are likely to reduce in times when markets are volatile and under stress

C. diversification is more likely if the holdings in Asset Class 3 are reduced at the same time as Asset Class 4 holdings are increased

D. diversification will be less difficult to achieve if Asset Class 5`s holdings are redistributed among the other four asset classes

38. A portfolio generated a return of 11% with a beta of 0.7 and tracking error of 4%. The market return was 14% and the risk-free rate was 1%. What is its Jensen's alpha? Asset Class 1 – International equities (30%)

A. 0.75%

B. 0.90%

C. 1.20%

D. 1.90%

39. Your client is aged 37, has a balanced attitude to risk and wishes to invest for long-term capital growth. Based solely on this information, which course of action would you recommend if their current portfolio was structured as below?

- Cash: 75,000
- Fixed-Interest stocks: 100,000
- Equities: 25,000
- Total: 200,000

A. Leave the portfolio unchanged

B. Reduce the fixed interest and increase cash

C. Reduce cash and invest in fixed interest

D. Reduce cash and increase equity investments

40. An index fund's tracking error is a measure of:

A. Its volatility relative to the volatility of the market

B. Its outperformance against its benchmark

C. How closely it follows the index to which it is benchmarked

D. Its underperformance resulting from systematic risk

41. The US qualified intermediaries regime requires non-US financial intermediaries who generally hold US assets on behalf of investors to obtain documentation from beneficial owners in order to apply the correct level of what?

A. Capital gains tax

B. Estate tax

C. Transaction tax

D. Withholding tax

42. The tactical asset allocation method may be considered to be an 'active' strategy, since it uses:

A. some flexibility in asset allocation, by taking into account a component of market timing, shifting to assets that perform better in certain economic conditions

B. a long-term approach to asset allocation that is based on the historic returns of each asset class. Any changes are due to shifts in an investor`s risk/return profile

C. a stochastic model to test a wide range of possible portfolios. Once this portfolio is chosen, its asset allocation will remain in line with the model's predictions

D. the most active method of modern portfolio theory when determining a portfolio`s asset allocation. Once set, any changes are only triggered by major cash inflows or withdrawals.

43. Which of the following investment strategies might be most appropriate for a life interest trust?

A. Bonds 15%; property 10%; equities 75%

B. Bonds 25%; property 10%; equities 65%

C. Bonds 25%; property 15%; equities 60%

D. Bonds 50%; property 10%; equities 40%

44. A portfolio has generated the following returns over the last three years: 4%, 6% and 8%. What is the standard deviation of returns?

A. 1.63%

B. 2.01%

C. 2.67%

D. 6.0%

45. Which risk measure shows the extent to which a fund's performance can be attributed to the index against which it is benchmarked?

A. Information ratio

B. R-squared

C. Standard deviation

D. Sharpe ratio

46. In what way might age influence an investor's attitude to risk?

A. Older people have experienced the volatility of the stock market over many years

B. Older people are more able to accept investment losses due to longer investment horizons

C. In retirement, older people have more time to spend on analysing investment opportunities

D. In retirement, there is generally little or no scope to replace investment losses with earnings

47. The balance on which of the following reserve accounts can be used to pay dividends to shareholders?

A. Capital reserve
B. Revaluation reserve
C. Revenue reserve
D. Share premium account

48. Which of the following is an external corporate governance mechanism?

A. Independent assessment and oversight of risks
B. Independent non-executive directors
C. Legal duties imposed on directors
D. Separation of responsibilities between the chairman and chief executive

49. An investor has purchased 2500 HSBC ordinary shares at a price of £5.75 through a broker. Ignoring the broker's commission, the costs of purchase are a levy for the Panel on Takeovers (PTM) of £1 and stamp duty reserve tax (SDRT) at 0.5%. Which statement concerning this purchase is correct?

A. The total cost of purchase is £14,375.00 less SDRT of £71.88 and PTM of £1
B. The total cost of purchase is £14,375.00 less SDRT of £72.88
C. The total cost of purchase is £14,447.88 plus SDRT of £1 and PTM of £71.88
D. The total cost of purchase is £14,447.88 which included SDRT of £71.88

50. An investment pays interest of 4% pa. If the annual rate of inflation is 2.4%, what is the real rate of return?

A. 1.6%
B. 1.56%
C. 1.02%
D. –1.54%

51. A portfolio was worth $500,000 at the beginning of the year and $550,000 at the end of the year. There was a cash injection of $15,000 at the end of March and a cash withdrawal of $7,000 at the end of September. What is its money-weighted rate of return (MWRR)?

A. 8.24%
B. 8.43%
C. 11.38%
D. 11.63%

52. A company makes profits of one million in the current financial year. At its year end it has distributable reserves of two million (including this year's profit), a gain of one million on the revaluation of an investment property and a capital redemption reserve of one million. What is the theoretical maximum dividend that can be distributed?

A. one million
B. two million
C. three million
D. five million

53. Which statement describes how strategic asset allocation differs from tactical asset allocation?

A. Strategic allocation describes the client's objectives and the investment strategy to be followed, and tactical allocation how this will be implemented in the short term
B. Tactical asset allocation describes the long-term mix of asset classes to be held, and strategic allocation the client's objectives and constraints
C. Strategic asset allocation describes the short-term positioning of the portfolio, and tactical allocation the long-term mix of asset classes to be held
D. Strategic asset allocation describes the long-term mix of asset classes to be held and tactical allocation the short-term positioning of the portfolio

54. Which of the following would be most likely to lead to a negative information ratio for an equity fund?

A. A high risk-free rate
B. A rise in the underlying stock market
C. A fall in the underlying stock market
D. The manager's poor stock-picking skill

55. Why would an investment manager employ a passive bond strategy over an active bond strategy?

A. The investment manager wishes to capitalise on perceived pricing anomalies
B. The investment manager considers markets to be efficient
C. The investment manager considers markets to be inefficient
D. The investment manager wishes to capitalise on current low interest rates

56. Which of the following is an indication of a successful active fund manager AND a well-diversified portfolio?

A. Low Treynor ratio
B. High Treynor ratio
C. High Sharpe ratio
D. Low Sharpe ratio

57. Which statement comparing foundations and trusts is correct?

A. The council of a foundation and a settlor undertake similar functions

B. The founder of a foundation undertakes a similar role to that of the trustees

C. The legal title to assets lies with the foundation or the trustees

D. The terms of a trust deed and a foundation's constitution have similar roles

58. Which of the following asset allocations is most likely to be suited to an investor who is in their early 40's and investing for their retirement who has a balanced attitude to risk?

A. 10% equity, 20% property, 30% cash, 40% fixed interest

B. 40% equity, 20% property, 10% cash, 30% fixed interest

C. 50% equity, 50% fixed interest

D. 90% equity, 10% cash

59. Which of the following descriptions refers to the information ratio?

A. It measures the dispersion of the fund's returns

B. It measures the degree to which the fund's performance can be attributed to the index against which it is benchmarked

C. It measures the risk-adjusted return achieved by a fund

D. It measures the fund's return over and above the risk-free rate, divided by the standard deviation of the returns

60. Which type of fund is using a momentum investment strategy?

A. Fund A utilises an investment strategy that seeks to identify stocks that are trading at less than their intrinsic value

B. Fund B utilises an investment strategy that emphasises growth potential over data derived from fundamental analysis.

C. Fund C utilises an investment strategy that ignores asset allocation and focuses on market trends

D. Fund D utilises an investment strategy that is the opposite of market trend and relies heavily on fundamental analysis

61. Subjective factors or soft facts are likely to be least useful in assessing which of the following?

A. Risk attitude

B. Risk capacity

C. Risk perception

D. Risk tolerance

62. Modern portfolio theory (MPT) enables a portfolio manager to use quantitative techniques in portfolio construction to enable diversification of holdings or assets that reduces risk. Which statement concerning this is incorrect?

A. Non-systematic risk can be reduced through diversification
B. Systematic risk can be reduced through diversification
C. Systematic risk cannot be eliminated
D. To achieve risk reduction, diversification must be across sectors

63. Which one of the following best describes the abusive behaviour of dissemination?

A. The act of alerting another to information gained from a company insider
B. Passing on information which gives a misleading impression
C. Bribing a company director to divulge price-sensitive information
D. Creating false liquidity to create an illusion of high trading volume

64. You are seeking a high yielding share with strong ability to pay dividends and have identified the following data:

	Company A	Company B	Company C	Company D
EPS	75p	45p	84p	50p
Net Dividend	22p	30p	42p	40p
Share Price	870p	540p	700p	640p

Which share best meets your criteria?

A. Company A
B. Company B
C. Company C
D. Company D

65. Combining Government bonds with which other type of bond would you expect to offer greater security and downside protection in the event of slowing economic growth?

A. Emerging market bonds
B. High yield bonds
C. Investment-grade corporate bonds
D. Securitised bonds

66. Investor A holds 600 units in a unit trust.

Investor B holds 1,600 shares in investment trusts.

Investor C holds 2,200 shares in an open-end investment company.

Comparing these three holdings, it is reasonable to conclude that:

A. Investor A's investment is the one most likely to be influenced by interest rate charges
B. Investor B`s investment is the one likely to be most influenced by supply and demand factors
C. Only investor A needs to retain the services of a stockbroker in order to sell their investment
D. Only investor C needs to find another investor in order to sell their investment

67. When a client has asked a manager to outperform a benchmark index, which of the following is the most appropriate return to use to assess their performance?

A. Total return
B. Capital return
C. Relative return
D. Holding period return

68. An investment fund that adopts statistical arbitrage strategies is likely to be using which of the following investment styles?

A. A growth fund
B. A momentum fund
C. A quantitative fund
D. A value fund

69. What is a key feature of an 'interest in possession' trust?

A. Beneficiaries are chosen one year after the trust is established
B. The recipient of the trust income is different from the eventual beneficiary of the underlying assets
C. The trustees have the freedom to change the beneficiaries
D. Payments are to be made from the trust only when the beneficiary reaches age 18

70. A portfolio generates a return of 12% with a standard deviation of 18%, the market return was 8% and the risk-free rate is 1%. What is the Sharpe ratio?

A. 0.22
B. 0.61
C. 0.67
D. 1.42

71. An investment analyst is using a number of indices as performance benchmarks.

- Index 1 – Nikkei 225 Index
- Index 2 – S&P 500 Index
- Index 3 – MSCI World Index
- Index 4 – Dow Jones Industrial Average Index

Which of the following statements is true?

A. Only Index 1 is market capitalisation-weighted

B. Only Index 4 is equal weighted

C. Only Indices 1 and 2 are price-weighted

D. Only Indices 2 and 3 are market capitalisation-weighted

72. You are considering a range of investments for inclusion within a SRI investment portfolio and are assessing their past performance, the yield, the volatility of returns and other non-investment related criteria. In which order would you consider the factors to identify investments for inclusion within a portfolio?

A. Dividend yield; volatility of returns; non-investment criteria; past performance

B. Non-investment related criteria; past performance; volatility of returns; dividend yield

C. Past performance; non-investment related criteria; volatility of returns; dividend yield

D. Volatility of returns; dividend yield; non-investment criteria; past performance

73. Which ONE of the following is the best definition of Return on Capital Employed?

A. Profits attributable to ordinary shareholders, divided by total assets less total liabilities

B. Earnings before interest and tax, divided by non-current assets plus net current assets

C. Profits attributable to ordinary shareholders, divided by non-current assets plus net current assets

D. Earnings before interest and tax, divided by total assets less total liabilities

74. Where would an investor with a high tolerance for risk prefer to invest in a portfolio?

A. Below the efficient frontier

B Above the efficient frontier

C. Towards the bottom left part of the efficient frontier

D. Towards the top right part of the efficient frontier

75. Both fundamental and technical analysis are useful in evaluating securities and potential investments. Which of the following best describes how they are used by investors?

A. Fundamental analysis is more popular with day traders, while technical analysis is used by those who take a longer-term view

B. Technical analysis focuses on the trends in a company's financial reports, while fundamental analysis is more concerned with market trends

C. Both monitor the trading volume of a security and occasionally make adjustments when liquidity is considered to be limited

D. Technical analysis uses price data that are more short term, while fundamental analysis is more long term

76. Which statement correctly describes the role that asset allocation performs in investment planning?

A. It enables defensive measures to be taken to avoid concentration risk by applying diversification

B. Its primary purpose is to enable portfolio performance to be evaluated against a relevant benchmark

C. By including relatively small allocations to property and alternatives, it promotes the use of investment funds

D. Correctly applied it enables the concentration of funds into one sector

77. With which type of indexation methodology used for index trackers is investment performance most exposed to both tracking error and counterparty risk?

A. Full replication

B. Optimisation

C. Sampling

D. Synthetic

78. An adviser is seeking to understand a client's risk profile. Which of the following would you expect to be identified last?

A. Attitude to risk

B. Risk capacity

C. Risk perception

D. Risk tolerance

79. Which of the following would represent common characteristics of a growth company?

A. High PE/Low dividend yield

B. High PE/High dividend yield

C. Low PE/Low dividend yield

D. Low PE/High dividend yield

80. Which statement comparing trusts and foundations is correct?

A. A trust has a founder and a foundation has a settlor

B. A trust is a legal entity and a foundation is not

C. A trust can be used for commercial purposes and a foundation cannot

D. A trust has a council and a foundation has officers

Answers to Multiple Choice Questions

1. Answer: C Chapter 8 Section 2.2

Benchmark target = (36m x 70% x 0.94) + (36m x 30% x 1.03) = $34,812,000. Actual return = $35.136m, resulting in an outperformance of $324,000.

2. Answer: C Chapter 3 Section 5.3.3

The Sharpe ratio measures return over and above the risk-free interest rate from an undiversified portfolio for each unit of risk assumed by the portfolio. The higher the Sharpe ratio, the better the risk adjusted performance of the portfolio and the greater the implied level of active management skill.

3. Answer: A Chapter 2 Section 1.2.2 and 2.1.1

While each country has its own rules on residency, the common factors are physical residency, property ownership or the availability of accommodation and regularity and periods of visits. Domicile of dependency refers to a child and so is not relevant.

4. Answer: A Chapter 6 Section 2.4

In assessing the client's knowledge and experience, the firm should gather information on: the types of services and transactions with which the client is familiar; the nature, volume, frequency and time that the client has been involved in such services and transactions; and the client's level of education, profession or relevant former profession.

5. Answer: C Chapter 3 Section 1.1.4

Investors A, B and D are in open-end funds and so their investment would have seen the fund expand.

6. Answer: D Chapter 5 Section 1.1

Diversification does not ensure higher returns but should protect the portfolio against economic shocks in any particular market.

7. Answer: D Chapter 7 Section 3.1

Applying principles, rules and sound judgment when monitoring and reviewing clients' changed circumstances should lead you to the conclusion that the client's affairs need reviewing. In particular, the continued suitability of the deposits should be flagged with the client and investigations should be carried out into whether the deposits could be withdrawn and any penalties that might be incurred.

8. Answer: D Chapter 6 Section 3.3.5

Stochastic techniques are dependent on assumptions, in order to set out the potential investment risks for the client.

9. **Answer: A** **Chapter 3** **Section 2.4.5**

The value of an OEIC's share is determined by the net asset value (NAV) of its underlying investments. This characteristics of an OEIC means that it cannot trade at a discount to NAV, as an investment trust can.

10. **Answer: A** **Chapter 4** **Section 1.1.1**

Risks 1 and 4 are systematic risks that would affect the market as a whole.

11. **Answer: B** **Chapter 5** **Section 2.4.3**

Anomaly switching involves moving between two bonds similar in all respects apart from the yield and price on which each trades. This pricing anomaly is exploited by switching away from the more to the less highly priced bond.

12. **Answer: D** **Chapter 7** **Section 1.1.4**

The need for high liquidity allied to a short investment timescale demands that a client invests in lower risk assets such as cash and short-dated bonds.

13. **Answer: D** **Chapter 7** **Section 3.1**

While equities can provide a growing level of income, their volatility would mean that such a high level of allocation to equities would be the least suitable option.

14. **Answer: A** **Chapter 3** **Section 3.1.5**

Stratified sampling involves choosing investments that are representative of the index in similar manner to the manner in which statisticians conduct surveys on a sampling which reflects the stratification of an entire population. For example, if a sector makes up 16% of the index, 16% of shares in that sector will be held, even though the proportions of individual companies in the index may not be matched. The expectation is that, with stratified sampling, overall, the tracking error or departure from the index will be relatively low. The amount of trading of shares required should be lower than with full replication, since the fund will not need to track every single constituent of an index. This should reduce transaction costs and therefore help to avoid such costs eroding overall performance.

15. **Answer: B** **Chapter 1** **Section 1.2.2**

The OECD issues the Principles of Corporate Governance which have become the international benchmark used by policymakers, companies, investors and other stakeholders.

16. **Answer: A** **Chapter 2** **Section 1.1.1**

A child born during the lifetime of their father has their domicile of origin in the country in which the father is domiciled at the time of the birth. The domicile of a child of married parents during their minority will depend on the domicile of the mother after the father's death and a child of unmarried parents will usually be that of their mother during their minority.

17. Answer: D Chapter 7 Section 1.6.1

Musharakah is an investment partnership in which profit-sharing terms are agreed in advance, and losses are pegged to the amount invested.

18. Answer: C Chapter 2 Section 1.2.3

If an investor ends up with tax being reclaimable from foreign investments then any excess tax must be reclaimed in the issuer's country.

19. Answer: B Chapter 1 Section 4.4.1

The theoretical ex-rights share price = [(No. shares held cum-rights x cum-rights share price) + (No. rights allocated x rights issue price)] / Total no. shares held assuming rights exercised = [(3 x £4.48) + (1 x £2.95)] /4 = £4.0975.

20. Answer: C Chapter 1 Section 2.2.3

Where minority interests exist, the parent company must have a controlling interest and all of the assets and income are shown in the parent's accounts and the percentage owned by minority interests shown as a deduction.

21. Answer: C Chapter 2 Section 6.1

The term 'tax mitigation' is now being used to refer to acceptable tax planning. It refers to ways of minimising tax liabilities in ways that are expressly endorsed by tax legislation.

22. Answer: A Chapter 8 Section 1.3

Portfolio performance may be measured by reference to a relevant peer group. The peer group will be portfolio or fund managers who are also responsible for the full range of management decisions (asset allocation and stock selection) for a portfolio or fund with similar objectives and constraints.

23. Answer: B Chapter 1 Section 1.4.7

The triple bottom line approach seeks to find a balance between economic, social and environmental value that enhances the potential of a company to create economic value.

24. Answer: B Chapter 5 Section 1.4.1

Strategic asset allocation is for the long term and will only be adjusted in the event of significant change in market conditions or if the client's requirements or circumstances change.

25. Answer: A Chapter 7 Section 2.2.4

All other things being equal, funds with the lowest weighted average maturity (WAM) and weighted average life (WAL) are less exposed to interest rate risk, credit risk and liquidity risk.

26. Answer: D Chapter 2 Section 2.1.3

The interest accrued up to the date of settlement of a bond sale is treated as due to the seller and added to the cost paid by the purchaser. Such payments are usually regarded as interest and are liable to income tax in the hands of the seller or can be claimed as a deduction by the purchaser.

27. Answer: C Chapter 1 Section 4.3.2

A stock split divides existing shares into more than one unit, hence nominal value is reduced.

28. Answer: D Chapter 6 Section 3.1

The most important outcome of the fact-finding process is the discovery of the needs and objectives of the client. The remaining factors will help determine the strategy needed to meet those needs.

29. Answer: B Chapter 4 Section 1.3

EMH supports the concept of passive investment, such as the use of index trackers or exchange-traded funds (ETFs).

30. Answer: A Chapter 6 Section 3.5.2

A cash flow statement is a summary of the client's current income and expenditure on an average monthly and annual basis, showing the main categories of income and expenditure.

31. Answer: A Chapter 3 Section 4.2.2

Gearing enhances returns in rising markets and amplifies losses in falling ones.

32. Answer: D Chapter 8 Section 2.1.2

The holding period return is calculated as profit/loss on redemption plus total income, divided by investment price. In this case, ((1,000 – 964) + (17.5 x 3)) / 964 = 9.18%. Note: this method calculates a return over the entire holding period; the returns are not annualised.

33. Answer: A Chapter 4 Section 3.2.1

Variance = $[(3.22\% - 2.68\%)^2 + (-6.74\% - 2.68\%)^2 + (11.56 - 2.68)^2] \div 3 = 0.5596\%$

34. Answer: C Chapter 1 Section 2.3.1

Depreciation decreases profit and non-current assets. A higher charge will magnify this effect.

35. Answer: C Chapter 7 Section 2.6.2

Bespoke portfolio management involves constructing and managing a portfolio around the specific needs of a client and can be managed on a discretionary or advisory basis.

36. Answer: B Chapter 1 Section 4.3.1

Say the exercise price is £1 per share. Before the bonus issue an investor with four shares would have a holding worth £4. After the issue, share price will fall to (£4 ÷ 5 shares) £0.80, a drop of 20% from the cum price of £1.

37. Answer: B Chapter 7 Section 2.1

Global equity markets are highly interlinked and in times of market stress move together as correlation compression takes place.

38. Answer: B Chapter 8 Section 2.3.1

Alpha = actual portfolio return – [Rf + ß (Rm – Rf)]=11% – [1% + 0.7(14% – 1%)] = 0.90%.

39. Answer: D Chapter 7 Section 1.1

Based on the client's age, attitude to risk, investment objective and timescale, increasing the equity allocation is the most appropriate option.

40. Answer: C Chapter 3 Section 5.5.5

Indexed portfolios are evaluated against the size of their tracking error, or how closely the portfolio has tracked the chosen index. Tracking error arises from both underperformance and outperformance of the index being tracked. However, performance of the portfolio also differs because of the actual costs involved in running a live portfolio, such as management fees and costs of dealing.

41. Answer: D Chapter 2 Section 6.2

The US qualified intermediaries (QI) regime is a regime whereby non-US financial intermediaries (including US branches of non-US entities) who generally hold US assets on behalf of investors are required to obtain documentation from the beneficial owners in order to apply the correct level of withholding tax on income (and in certain circumstances capital gains) generated by the assets.

42. Answer: A Chapter 5 Section 1.2.2

Tactical asset allocation involves making short-term changes to strategic asset allocation to take advantage of market opportunities.

43. Answer: D Chapter 7 Section 1.3.2

In a life interest trust, the life tenant is entitled to the income arising from the assets of the trust during their lifetime and the capital passes to the remaindermen on their death. The duty of the trustee is to maintain an even balance between the interests of the life tenant suggesting that asset allocation D would be most appropriate.

44. Answer: A Chapter 4 Section 3.2.2

Standard deviation is the square root of the variance of returns from the average. The average return is 6% (4%+6%+8%)/3 and the differences from this average are –2, 0, and 2. The differences squared are, therefore, 4, 0, and 4 which total 8. When divided by the number of observations (3) this gives a variance of 2.666667. The square root of that figure is 1.632993.

45. Answer: B Chapter 3 Section 5.3.3

R-squared measures the extent to which a fund's performance is attributed to the benchmark performance.

46. Answer: D Chapter 6 Section 3.2.1

As clients grow older, they are generally less willing to take capital risks, because they cannot easily – if at all – replace any money they lose through earnings.

47. Answer: C Chapter 1 Section 2.3.5

A revenue reserve or retained earnings reserve is created when the company has made a profit from its trading activities and retained some or all of this profit within the business. In general, profit and loss reserves can be used to pay dividends to shareholders.

48. Answer: C Chapter 1 Section 1.4.6

Legal duties imposed on directors is an example of an external mechanism, the others are internal mechanisms.

49. Answer: D Chapter 2 Section 3

SDRT is a transaction tax that is charged at 0.5% of the purchase cost of shares. The cost of the shares is £14,375.00 (500 * £5.75) so SDRT at 0.5% is £71.88 and the PTM levy is £1 giving a total cost of purchase of £14,447.88.

50. Answer: B Chapter 4 Section 2.4.1

The real rate of return is calculated using the formula:

$$\text{Real rate of return} = 1 + \frac{\text{nominal rate}}{1 + \text{inflation rate}} - 1$$

So, the real rate of return is 1.04/1.024 – 1 = 1.5625 or 1.56% rounded to 2dp.

51. Answer: A Chapter 4 Section 3.4.2

($550,000 – $500,000 – $8,000) / [$500,000+($15,000 × 9 / 12)+(–$7,000 × 3 / 12)] = $42,000 / $509,500 = 8.24%

52. Answer: B Chapter 1 Section 4.2.1

Companies may make distributions only out of profits available for the purpose, which is basically determined as accumulated realised profits less accumulated realised losses. The theoretical maximum dividend is, therefore, distributable reserves of the company, which includes the current year's profit.

53. Answer: D Chapter 5 Section 1.2.1 – 1.2.2

Strategic asset allocation is the long-term asset mix over the main asset classes, and tactical allocation focuses on how these can be flexed in the short term.

54. Answer: D Chapter 8 Section 2.3.3

Information ratios measure the returns against the underlying market adjusted for tracking error, so the information ratio is not directly affected by the performance of the market the portfolio is invested in. Poor stock picking will tend to lead to the fund underperforming the benchmark index.

55. Answer: B Chapter 5 Section 2.5

According to the efficient market hypothesis, that there are no real benefits to be gained from attempting to 'time' the market and to engage in a proactive approach to asset selection.

56. Answer: B Chapter 8 Section 2.3.3

With diversified equity funds, the element of unsystematic risk would be very negligible as these funds are expected to be well diversified by virtue of their nature; hence, the Treynor ratio would be more apt here.

57. Answer: C Chapter 2 Section 5.2

Legal title to assets lies with the foundation or the trustees. The members of a foundations council undertake a similar role to that of trustees and the charter fulfils a similar function to the trust deed.

58. Answer: B Chapter 7 Section 3.2

The 40% equity, 20% property, 10% cash, 30% fixed interest portfolio is likely to be the most suitable as it has the greatest diversification across the asset classes and should minimise the effects of any significant market movements. It is also more suitable than asset allocation D given the client's attitude to risk.

59. Answer: B Chapter 4 Section 3.4.8

The information ratio is a measure of the risk-adjusted return achieved by a fund.

60. Answer: C Chapter 7 Section 2.4.7

Momentum investing involves capitalising on existing market trends.

61. Answer: B Chapter 6 Section 3.3 – 3.3.1

While subjective factors largely determine risk perception and attitude, the key question in assessing risk capacity is a more objective one: what would be the consequences for the client if losses were incurred?

62. Answer: B Chapter 4 Section 1.1

There is a residual risk element that cannot be completely diversified away. This is known as systematic risk, which cannot be reduced through diversification.

63. Answer: B Chapter 5 Section 4.4.3

Abusive behaviour of dissemination is the dissemination of information by any means which gives, or is likely to give, a false or misleading impression.

64. **Answer: C** **Chapter 1** **Section 3.5.5 and 3.5.6**

The dividend yields for each company are:

- A – 2.52%
- B – 5.5%
- C – 6%
- D – 6.25%

The dividend cover for C and D should then be calculated which will show a result of 2 and 1.25. From this you can interpret that although Company D has a higher yield, Company C has a stronger dividend cover and therefore best meets the criteria.

65. **Answer: D** **Chapter 7** **Section 2.3.4**

Government bonds and securitised bonds offer greater security and can provide downside protection in the event of slowing or declining economic growth compared to equities.

66. **Answer: B** **Chapter 3** **Section 4.2.3**

Investment trust shares trade at prices that are linked to NAV but depend on demand and supply.

67. **Answer: C** **Chapter 8** **Section 2.1.1**

The relative return compares the return to the benchmark.

68. **Answer: C** **Chapter 5** **Section 2.2**

A quantitative fund is an actively-managed fund where the stock-selection process is driven by computer models. Statistical arbitrage is a strategy associated with such funds.

69. **Answer: B** **Chapter 2** **Section 5.1.2**

An interest in possession is the right to receive an income from a trust fund or use of trust assets. Interest in possession trusts are generally established in a will and are a useful way of providing a safe income for dependents of the settlor, while ensuring that some assets remain to be passed on at a later date to other beneficiaries.

70. **Answer: B** **Chapter 4** **Section 3.4.5**

Sharpe ratio = (return – risk-free rate)/standard deviation = (12 – 1)/18 = 0.61.

71. **Answer: D** **Chapter 8** **Section 1.2**

S&P 500 and MSCI indices are market capitalisation-weighted.

72. **Answer: B** **Chapter 7** **Section 1.5.2**

As this is an SRI portfolio, the first criteria will be to eliminate those investments that fail to be the SRI criteria laid down by the rules imposed on the investment manager by the trustees or investor.

73. Answer: B Chapter 1 Section 3.1.4

Return on capital employed (ROCE) is defined as earnings before interest and tax, divided by capital employed non-current assets plus net current assets.

74. Answer: D Chapter 4 Section 1.1.2

An investor with high risk tolerance would accept a higher level of standard deviation and, therefore, would tend to be investing to the top right of the efficient frontier.

75. Answer: D Chapter 5 Section 3.4 – 3.4.2

The principal differences between fundamental and technical analysis can be summarised as follows:

- **Analysing financial statements versus charts** – at a basic level, fundamental analysis involves the analysis of the company's balance sheet, cash flow statement and income statement. Technical analysis considers that there is no need to do this, as a company's fundamentals are all accounted for in the price and the information needed can be found in the company's charts.
- **Time horizon** – fundamental analysis takes a relatively long-term approach to investment. Technical analysis uses chart data over a much shorter time-frame of weeks, days and even minutes.
- **Investing versus trading** – fundamental analysis is used to make long-term investment decisions. Technical analysis is used to determine short-term trading decisions.

76. Answer: A Chapter 5 Section 1.1

Asset allocation methodology is based on the benefits of diversification and is therefore essentially defensive, placing capital protection before capital growth.

77. Answer: D Chapter 3 Section 3.1.5

All will have some degree of tracking error, but synthetic replication generally increases counterparty risk.

78. Answer: B Chapter 6 Section 3.3, 3.3.3

The risk assessment process usually starts with investigation of attitudes; consideration of risk capacity usually follows later since it requires knowledge of the client's objectives.

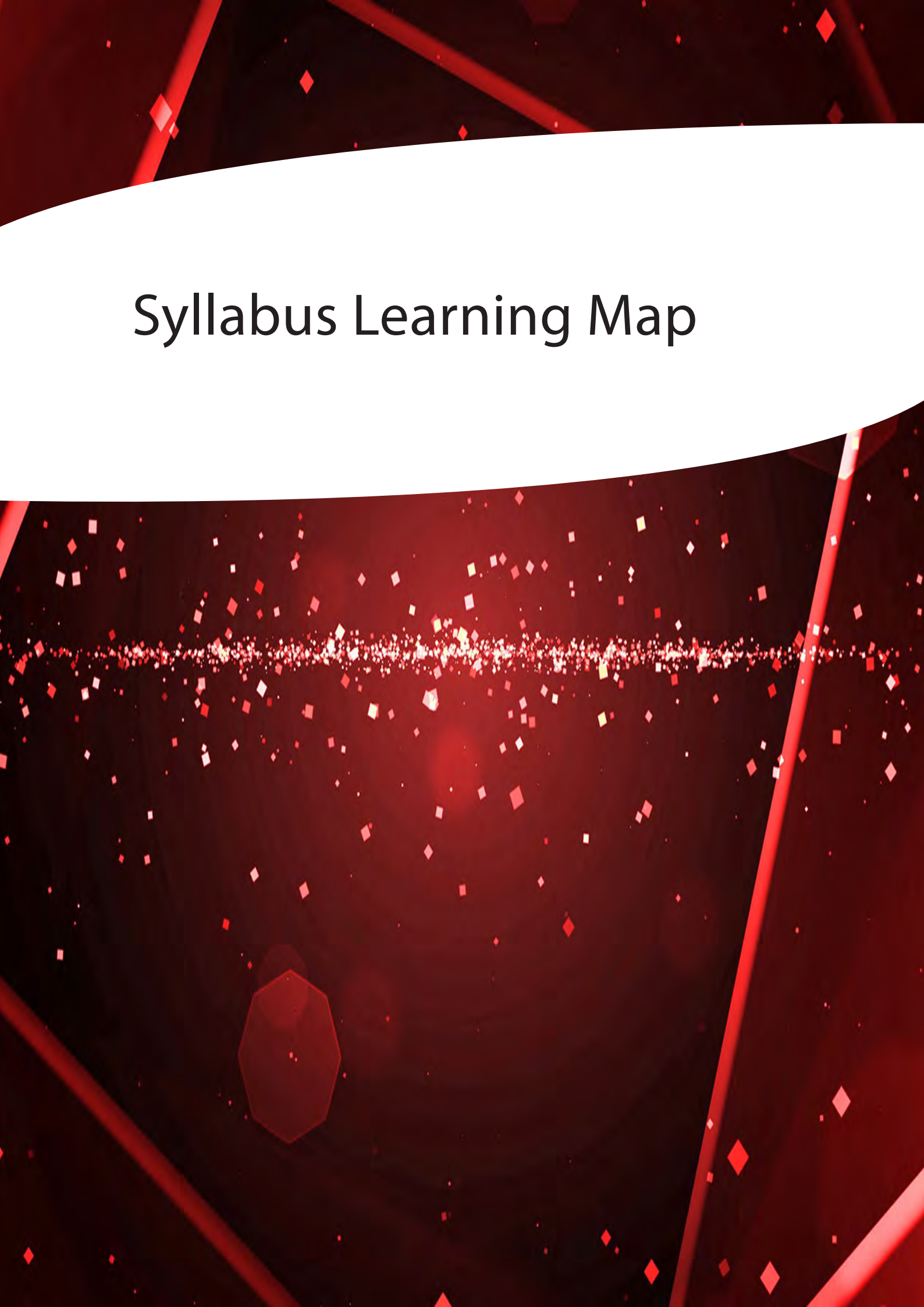
79. Answer: A Chapter 1 Section 3.5.2

For growth companies, the market price tends to be relatively high, so P/E is high and dividend yield is low.

80. Answer: C Chapter 2 Section 5.3

A trust can be used for commercial purposes. A trust is not a legal entity, it has trustees and is created by a settlor.

Syllabus Learning Map



Syllabus Unit/ Element		Chapter/ Section
Element 1	Securities Analysis	Chapter 1
1.1	**Corporate Governance** On completion the candidate should:	
1.1.1	Understand the principles of good corporate governance, the potential impact on the integrity and efficiency of a business, and the financial and reputational risks posed by poor governance: • fairness • accountability • responsibility • transparency	1.2
1.1.2	Understand some of the key approaches to corporate governance best practice, and their relative risks and merits for companies and their shareholders: • statutory/legislative • shareholder theory • corporate social responsibility • board diversity • enlightened shareholder value (ESV)	1.4
1.1.3	Understand the main developments in relation to corporate governance practice	1.3
1.1.4	Understand the main trends in relation to environmental, social, and corporate governance (ESG) and climate change investing	1.5
1.2	**Financial Statement Analysis** On completion the candidate should:	
1.2.1	Understand how differences in accounting standards, principles and guidelines can impact the reporting of financial information in a company's balance sheet, income statement and notes to the financial statements	2.1
1.2.2	Be able to assess the purpose, structure and relevance of statements of financial position, from the perspectives of corporate management teams and potential investors	2.2, 2.3
1.2.3	Be able to assess the purpose, structure and relevance of statements of profit and loss, from the perspectives of corporate management teams and potential investors	2.2, 2.4
1.2.4	Be able to assess the purpose, structure and relevance of statements of cash flow, from the perspectives of corporate management teams and potential investors	2.2, 2.5

Syllabus Unit/ Element		Chapter/ Section
1.2.5	Be able to analyse securities using the following profitability ratios (may include calculations): • gross profit margin • net profit margin • operating profit margin • equity multiplier • return on capital employed • return on equity • return on assets	3.1
1.2.6	Be able to analyse securities using the following operating efficiency ratios (may include calculations): • inventory turnover • receivables turnover • assets turnover	3.2
1.2.7	Be able to analyse securities using the following liquidity ratios (may include calculations): • current ratio • quick ratio • cash ratio	3.3
1.2.8	Be able to analyse securities using the following solvency/financial leverage ratios (may include calculations): • debt to assets ratio • debt to equity ratio • equity to assets ratio • interest cover	3.4
1.2.9	Be able to analyse securities using the following investor ratios (may include calculations): • earnings per share • earnings yield • price/earnings (both historic and prospective) • dividend yield • dividend payout • dividend/interest cover • enterprise value to EBITDA • price to book ratio • PEG ratio • price to sales	3.5

Syllabus Unit/ Element		Chapter/ Section
1.2.10	Be able to assess the main advantages and challenges of performing financial analysis: • comparing companies in different countries and sectors • comparing companies that have different accounting currencies • comparing companies that use different accounting standards and/or year ends • comparing different companies within the same sector • over-reliance on historical information • access to accurate and timely information, including the benefits and limitations of relying on third party research • gauging industry and company sensitivities to technological, market, supplier, customer and government-legislated change • estimating the impact of significant changes to the future structure, strategy, management and viability of a company	3, 3.6
1.3	**Corporate Actions** On completion the candidate should:	
1.3.1	Be able to assess the purpose and structure of corporate actions, how they impact on share prices, and their implications for investors: • mergers, takeovers, acquisitions and divestments • share buybacks • stock capitalisation or consolidation • stock and cash dividends • rights issues • open offers, offers for subscription and offers for sale • placings	4
1.3.2	Be able to calculate the theoretical effect on the issuer's share price of the following mandatory and optional corporate actions: • bonus/scrip • consolidation • rights issues	4
1.3.3	Be able to analyse the following in respect of corporate actions: • rationale offered by the company • the dilution effect on profitability and reported financials • the implications of share buybacks to substantial shareholders and investors • the effect of share buybacks	4

Syllabus Unit/ Element		Chapter/ Section
Element 2	**Taxation, Trusts and Foundations**	**Chapter 2**
2.1	**Taxation** On completion the candidate should:	
2.1.1	Understand the application of the main taxes as they may apply to businesses: • business taxes • transaction taxes • sales or value added taxes • taxes on overheads (eg, business premises, employment, excise)	4
2.1.2	Understand direct and indirect taxes as they may apply to individuals: • tax on income • tax on capital gains • estate tax • transaction taxes • tax on sales	2
2.2	**Residence and Domicile** On completion the candidate should:	
2.2.1	Understand the impact of rules on residency and domicile, and the implications for income tax and capital gains tax	1.1
2.2.2	Understand the use of double taxation treaties	1.2.3
2.2.3	Understand how withholding tax is applied based on: • residency • product • tax regime (at source or reclaimable) • beneficiary	1.2.3
2.2.4	Understand the impact of residency and domicile on the liability to pay inheritance tax	2.3.9
2.3	**Trusts and Foundations** On completion the candidate should:	
2.3.1	Understand the fundamentals of trusts and their use in international wealth management: • types of trusts • establishing a trust: ◦ certainties ◦ roles of parties • main uses of trusts; types of assets held; sham trusts • private trust companies	5.1

Syllabus Unit/ Element		Chapter/ Section
2.3.2	Understand the fundamentals of foundations and their use in international wealth management: • types of foundations: ◦ private ◦ corporate ◦ charitable ◦ special purpose • establishing a foundation: ◦ charter ◦ role of founder ◦ foundation council and other parties • uses of foundations: ◦ types of assets held ◦ restrictions on commercial activities ◦ international business companies	5.2
2.3.3	Understand the essential differences between trusts and foundations, and be able to distinguish them from other legal entities	5.3
2.3.4	Understand how offshore trusts are used for money laundering, and the steps that should be used to counter illegal activities	5.4
2.4	**Tax Compliance** On completion the candidate should:	
2.4.1	Know how tax is accounted for, and an adviser's duties regarding tax compliance, avoidance and evasion	6
2.4.2	Understand the compliance implications and reporting requirements for international disclosure of client tax information	6
2.5	**Tax planning** On completion the candidate should:	
2.5.1	Know the key principles of investment tax planning to basic recommendations relating to the taxation of savings, investments and pensions: • use of personal tax allowances • spouses' personal tax allowances • children's tax position • pension contributions • use of tax-efficient wrappers • use of capital gains tax exemptions • tax deferral • tax-incentivised investments	7

Syllabus Unit/ Element		Chapter/ Section
Element 3	**Investment Products**	**Chapter 3**
3.1	**Characteristics of Collective Investment Funds and Companies** On completion, the candidate should:	
3.1.1	Understand the main types, purposes, common investment characteristics, risks and behaviours of funds, collectives and other investment products available globally	1, 2
3.2	**Analysis of Collective Investments** On completion, the candidate should:	
3.2.1	Know the key factors to consider when selecting collective investments: • quality of firm, management team and administration • investment mandate – scope, controls, restrictions and review process • investment strategy • exposure, allocation, valuation and quality of holdings • prospects for capital growth and income • asset cover and redemption yield • track record compared with appropriate peer universe and market indices • tax considerations • key person risk (KPR) and how this is managed by a firm • shareholder base • measures to prevent price exploitation by dominant investors • initial and ongoing costs • liquidity, trading access and price stability • suitability	5
3.2.2	Be able to analyse the relative merits and limitations of investing in a collective investment fund compared with other forms of direct and indirect investment, in terms of: • risks • investment performance • tax treatment • turnover, liquidity and access • initial and ongoing costs • management and administration • closet trackers	5
3.2.3	Be able to analyse the key features, relative merits, and limitations of investing in absolute return funds compared with other forms of direct and indirect investment: • structure • income and capital growth • investment risk and return • expenses • capital protection • monitoring performance vs benchmark	5

Syllabus Unit/ Element		Chapter/ Section
3.3	**Exchange-Traded Funds and Exchange-Traded Commodities** On completion, the candidate should:	
3.3.1	Be able to assess the main types, purposes, underlying structure, common investment characteristics, risks, costs and behaviours of: • exchange-traded funds (ETFs) • exchange-traded commodities (ETCs) • growth of market size relative to conventional markets	3
3.3.2	Be able to analyse the relative merits and limitations of investing in exchange-traded funds (ETFs) or exchange-traded commodities (ETCs) compared with other forms of direct and indirect investment, in terms of: • risks specific to different types of ETF/ETC instruments • risk/return and tracking error • physical vs synthetic • tax treatment • counterparty risk • turnover, liquidity and access • initial and ongoing costs • management and administration • smart beta • leveraged ETFs • inverse trackers	3, 4
3.4	**Closed-End Funds and Investment Companies** On completion, the candidate should:	
3.4.1	Be able to assess the main types, purposes, risks, tax treatment, charges, common investment characteristics and behaviours of offshore closed-end funds and investment companies	4
3.4.2	Be able to assess when and why borrowing/gearing is used by closed-end funds, and the benefits and risks associated with it	4
3.4.3	Be able to analyse the relative merits and limitations of investing in closed-end funds and investment companies compared with other forms of direct and indirect investment, in terms of: • risks • investment performance • tax treatment • premiums and discounts • turnover, liquidity, and access • initial and ongoing costs • management and administration • product development and popularity in different jurisdictions	4

Syllabus Unit/ Element		Chapter/ Section
3.5	**Life Assurance-Based Investments** On completion, the candidate should:	
3.5.1	Be able to analyse the key features, relative merits and limitations of investing in onshore and offshore life assurance-based investments compared with other forms of direct and indirect investment: • risks • investment performance • tax treatment (offshore, onshore) • turnover, liquidity and access • initial and ongoing costs • management and administration • product development and popularity in different jurisdictions	6
3.6	**Pension Arrangements** On completion, the candidate should:	
3.6.1	Be able to analyse the main types, purpose, structure and operation, risks, costs and investment characteristics of pension arrangements: • defined benefit • defined contribution • personal pensions	7
3.6.2	Be able to analyse the key features of pension arrangements: • contributions – sources, level and limits • investment selection and performance • tax treatment of contributions, investments and benefits • how benefits are provided • annual and lifetime allowances • initial and ongoing costs	7

Element 4	Principles of Investment Risk and Return	Chapter 4
4.1	**Models of Investment Theory** On completion, the candidate should:	
4.1.1	Be able to assess the main propositions and limitations of the Efficient Markets Hypothesis (EMH): • strong form • semi-strong form • weak form • assumptions and shortcomings	1.3

Syllabus Unit/ Element		Chapter/ Section
4.1.2	Be able to assess the main principles of Modern Portfolio Theory (MPT), the Capital Asset Pricing Model (CAPM), its application and limitations: • risk free rate of return • risk premium • cost of capital and return on capital • excess returns • correlation measures • risk and diversification • efficient frontier, portfolio optimisation and leverage • assumptions and shortcomings	1.1
4.1.3	Be able to assess the main principles behind Arbitrage Pricing Theory (APT), its application and limitations: • factor structure and analysis • macroeconomic and market factors • arbitrage theory and mechanics • relationship with CAPM • assumptions and shortcomings	1.4
4.1.4	Be able to assess the principles of behavioural finance: • loss aversion • price reaction and price trends • barriers and biases – practical and psychological • relationship with EMH • assumptions and shortcomings • cultural and gender differences	1.6
4.1.5	Be able to assess the types and uses of multi-factor models, their assumptions and limitations: • equity • fixed income	1.5
4.1.6	Be able to assess diversification and hedging techniques to mitigate portfolio risk: • significance of alpha and beta • correlation and relative risk • principles of asset allocation • hedging and immunisation • active and passive strategies • cost/benefit considerations	3.3
4.2	**Time Value of Money** On completion, the candidate should:	
4.2.1	Understand the principles of compound interest and the time value of money	2.1
4.2.2	Be able to calculate the net present value of: • lump sums • regular payments, annuities	2.2

Syllabus Unit/ Element		Chapter/ Section
4.2.3	Be able to calculate the future value of: • lump sums • regular payments, annuities	2.3
4.2.4	Be able to calculate real and inflation adjusted returns: • nominal returns • real or inflation adjusted returns • total returns • Fisher Effect equation	2.4
4.3	**Investment Risk and Return** On completion, the candidate should:	
4.3.1	Be able to analyse and explain the main types of investment risk, and their implications for investors: • systemic risk • systematic and non-systematic risk • market risk – asset price volatility, currency, interest rates, foreign exchange rates, commodity price volatility • inflation/disinflation • country risk • gearing/leverage • concentration and diversification • counterparty and institutional risk • market timing • drawdown • sequencing risk • corporate governance risk • liquidity, credit risk and default • investment horizon	3.1
4.3.2	Be able to analyse the main risk and return measures, their purpose, and how they are used within asset and portfolio evaluation: • time-weighted return • money-weighted return • holding period return • total return and its components • standard deviation • volatility • covariance and correlation	3.2

Syllabus Unit/ Element		Chapter/ Section
4.3.3	Be able to apply risk and return metrics to the measurement of portfolio performance: • time-weighted return • money-weighted return • holding period return • contributions to return/attribution analysis • relative return to index, benchmark or peer universe • risk-adjusted returns • uses of Treynor, Sharpe and Jensen ratios • value-at-risk	3.4

Element 5	Portfolio Construction	Chapter 5
5.1	**Market Information and Research** On completion, the candidate should:	
5.1.1	Understand the use of regulatory, economic and financial communications: • news and research services • government resources and statistics • regulatory resources	3
5.1.2	Understand the main types, benefits, limitations and typical uses of research and reports: • fundamental analysis • technical analysis • asset class analysis and selection • stock analysis and selection	3.4
5.1.3	Understand the key factors that influence markets and sectors: • geopolitical, financial and economic events impacting on regional and global financial markets • interrelatedness of exchange rates, interest rates, commodity prices and inflation/deflation • volume, liquidity, and nature of trading activity in domestic and overseas markets • regulatory regimes – enforcement and effectiveness • publication of announcements, research and ratings	4
5.1.4	Understand the interactive relationship between the securities and derivatives markets, and the impact of related events on markets	4.5
5.1.5	Understand the interactive relationship between different forms of fixed interest securities and the impact of related events on markets	4.6

Syllabus Unit/ Element		Chapter/ Section
5.2	**Portfolio Construction** On completion, the candidate should:	
5.2.1	Be able to assess the benefits and limitations of the main approaches used to mitigate portfolio risk: • correlation • diversification vs concentration • active and passive strategies • currency hedging • guaranteed and absolute return strategies • hedging and immunisation strategies	1.3
5.2.2	Understand the main constraints and factors which limit the extent to which investment theory can be applied to the process of portfolio construction: • investment mandate restrictions/client preferences • time horizon and size of portfolio • frequency of cash inflows and outflows • turnover costs • transaction, custody and management fees • withholding taxes • sources of tracking error (where applicable)	1.5
5.2.3	Be able to evaluate the key approaches to investment allocation and portfolio diversification for bond, equity and balanced portfolios: • asset class • geographical area • currency • issuer • sector • maturity	1.1
5.2.4	Be able to evaluate the purpose, principles and processes of different asset allocation strategies: • achievement of performance objectives • trade-off between risk and return • stochastic modelling • relationship with investment theory • active and passive management • strategic asset allocation (SAA) • cyclical asset allocation • tactical asset allocation (TAA) • constant weighted asset allocation • dynamic asset allocation • insured asset allocation • integrated asset allocation	1.2

Syllabus Unit/ Element		Chapter/ Section
5.2.5	Be able to assess the main aims and investment characteristics of the main cash, bond and equity portfolio management strategies and styles: • indexing/passive management • active/market timing • smart indexing • growth, income, value, and contrarian investing • market capitalisation • liability driven (LDI) • immunisation • long, short and leveraged • issuer and sector-specific • quantitative, trend, and trading strategies	2
5.2.6	Be able to analyse combinations of asset classes based on: • historical returns • index and benchmark comparisons • correlation of performance between asset classes • advantages and limitations of relying on historical data	1.4

Element 6	**Investment Advice**	**6**
6.1	**Advising Clients** On completion, the candidate should:	
6.1.1	Understand the main regulatory categorisations of investment clients, products and services, and how these impact on the responsibilities and processes undertaken by investment advisers: • Australia • China • European Union • Japan • Middle East • Singapore • UK • USA	2

Syllabus Unit/ Element		Chapter/ Section
6.1.2	Be able to apply a framework for providing financial advice, paying particular attention to: • 'Know Your Client' and suitability principles underpinning the fiduciary relationship • the nature of the client relationship, confidentiality, trust and client protection • awareness and prevention of conduct risk and conflicts of interest • identification of, and appropriate engagement with vulnerable customers • the information required from clients and methods of obtaining it • monitoring and review of clients' circumstances • the information clients must be given under the current regulatory requirements • additional requirements needed when advising on unregulated retail products	1
6.1.3	Understand how wealth management services can be paid for: • management fees • transaction charges • financial planning advice • performance based fees • nature and frequency of service to be provided	2
6.2	**Client Fact Finding** On completion, the candidate should:	
6.2.1	Know the purposes, merits and limitations of using questionnaires and interviews to elicit client information	3
6.2.2	Know the main factors, resources and limitations shaping a client's current and desired financial circumstances: • understanding the client's goals and aspirations • gather appropriate, relevant information about current and projected income, expenditure, debt and savings • consider time horizons and the relative balance of growth versus income • distinguish between what is essential and what is desirable, and prioritise accordingly • review for 'unseen' factors which may not be evident through reliance on data collected • agree clear, feasible, prioritised investment objectives	3

Syllabus Unit/ Element		Chapter/ Section
6.2.3	Be able to apply a range of essential information and factors to form the basis of appropriate financial planning and advice for clients: • financial needs, preferences and expectations • setting realistic goals and priorities • income and lifestyle – current and anticipated • attitude to risk/capacity for loss • level of knowledge and experience of investing • existing debts and investments	3
6.3	**Risk Profiling** On completion, the candidate should:	
6.3.1	Be able to analyse a profile of a client's risk exposure and appetite for risk, based on the following objective and subjective factors: • level of wealth • timescale • commitments • life cycle • life goals • investment objectives • attitudes • experiences • knowledge • capacity for loss	3
6.3.2	Be able to apply a client risk profile to the investment selection process, mindful of the following: • suitability and appropriateness • benefits and limitations of risk profiling systems • conduct, legal and reputational risks of misselling and poor or inadequate advice	3

Element 7	Investment Selection and Recommendation	Chapter 7
7.1	**Investment Allocation** On completion, the candidate should:	
7.1.1	Be able to analyse and select strategies suitable for the client's aims and objectives in terms of: • investment horizon • current and future potential for growth and yield • requirement for capital protection • protection against inflation • liquidity, trading and ongoing management • mandatory or voluntary investment restrictions • impact of tax • impact of fees and charges	1

Syllabus Unit/ Element		Chapter/ Section
7.1.2	Be able to analyse the differences between environmental, social and corporate governance (ESG) and socially responsible investment (SRI) strategies, their origins and purposes, and the circumstances in which it may be appropriate to discuss them	1.5
7.1.3	Understand the main considerations for investing in accordance with Shariah law and other faith values	1.6
7.1.4	Understand the main considerations that should be taken into account when investing for charities	1.4
7.1.5	Understand the main considerations that should be taken into account when investing for trusts	1.3
7.1.6	Be able to apply an appropriate investment allocation strategy that best meets the following criteria: • distinguishing and prioritising the client's financial needs and wants • client's financial objectives and priorities • client's risk tolerance • appropriate fees and charges • portfolio turnover ratio (PTR) • client suitability requirements • adequate diversification and correlation benefits • additional risk, timing and liquidity factors where asset accumulation and decumulation are relevant features	2.1
7.2	**Investment Selection** On completion, the candidate should:	
7.2.1	Be able to analyse the main factors to consider when selecting bonds and bond funds: • direct bond investment strategies • indirect investment in bonds through funds • advantages and disadvantages of investing in bonds and bond funds • costs, turnover, liquidity and ease of trading	2.3
7.2.2	Be able to analyse the main factors to consider when selecting equities and equity funds: • direct equity investment strategies • indirect investment in equities through funds • growth/dividend prospects • advantages and disadvantages of investing in equities and equity funds • costs, turnover, liquidity and ease of trading	2.4

Syllabus Unit/ Element		Chapter/ Section
7.2.3	Be able to analyse and select investments suitable for a particular portfolio strategy: • direct holdings, indirect holdings and combinations • role of derivatives • impact on client objectives and priorities • diversification • cash, deposit accounts and money market funds	2.2
7.2.4	Be able to analyse and compare charges on the basis of impact, reduction in yield and total expense ratios/ongoing charge and synthetic risk, Sharpe ratio, R-squared and reward indicators	2.5
7.2.5	Know the characteristics, uses, benefits, risks and charges associated with wrap and other platforms	2.6
7.3	**Investment Planning and Recommendations** On completion, the candidate should:	
7.3.1	Know the affordability, appropriateness and suitability of recommendations based on the following criteria: • product provider quality • investment risk and performance • quality of administrative/client service • impact of new solutions on existing arrangements • range of solutions available to suit different circumstances • range of criteria for matching solutions to client needs and demands • rationale for discounting potential alternative solutions	3
7.3.2	Be able to apply a strategy and rationale that will meet the client's objectives: • highlight the pertinent issues and priorities • formulate a plan to deal with them • offer proposals to achieve these objectives • explain clearly the relative merits and drawbacks of each proposal and combination thereof • agree a strategy that the client understands and accepts	3
7.3.3	Understand the factors which influence the way in which recommendations are presented and received	3
7.3.4	Know a clients' understanding of recommendations	3
7.3.5	Be able to apply consumer rights and the regulatory requirements to the provision of investment advice	3

Element 8	Portfolio Evaluation, Maintenance and Review	Chapter 8
8.1	**Selection and use of Benchmarks** On completion, the candidate should:	
8.1.1	Understand the purposes and limitations of portfolio evaluation	1.1

Syllabus Unit/ Element		Chapter/ Section
8.1.2	Understand the concept and purpose of performance calculation using the GIPS method and benchmarking against indices	1.4
8.1.3	Understand the construction, segmentation and weighting methods of the main bond and equity indices, including: • Australia S&P ASX • China SSE index • Dow Jones Industrial Average Index • FTSE 100 & All-share indices • FTSE Actuaries Government Securities Indices • FTSE All-World Index Series • Hang Seng Index • MSCI World Indices • Nikkei 225 • S&P 500 Index	1.2
8.1.4	Understand the differences between a single and a composite (synthetic) benchmark, including how they are calculated	1.3
8.1.5	Be able to apply suitable and relevant benchmarks when measuring, evaluating and reviewing investment performance	1.3, 1.3.4
8.2	**Portfolio Evaluation** On completion, the candidate should:	
8.2.1	Be able to analyse portfolio performance in terms of: • absolute and relative return • absolute and relative risk • risk-reward ratios • portfolio alpha and beta • impact of new money and timing factors	2
8.2.2	Be able to analyse and explain contributions to portfolio performance: • contributions to return (performance attribution) arising from asset allocation, currency movements, stock selection and timing • local currency and client (base) currency performance • performance of hedging strategies • tracking error	2
8.3	**Portfolio Review & Maintenance** On completion, the candidate should:	
8.3.1	Understand the process of periodic review to meet key criteria: • regulatory requirements • appropriate frequency, taking into account client requirements and the chosen investment strategy	3
8.3.2	Be able to apply key elements involved in managing a client portfolio: • systematic and compliant approach to ongoing portfolio monitoring, review, reporting and management • selection of appropriate benchmarks to include market and specialist indices, total return and maximum drawdown • arrangements for regular client communication and meetings	3

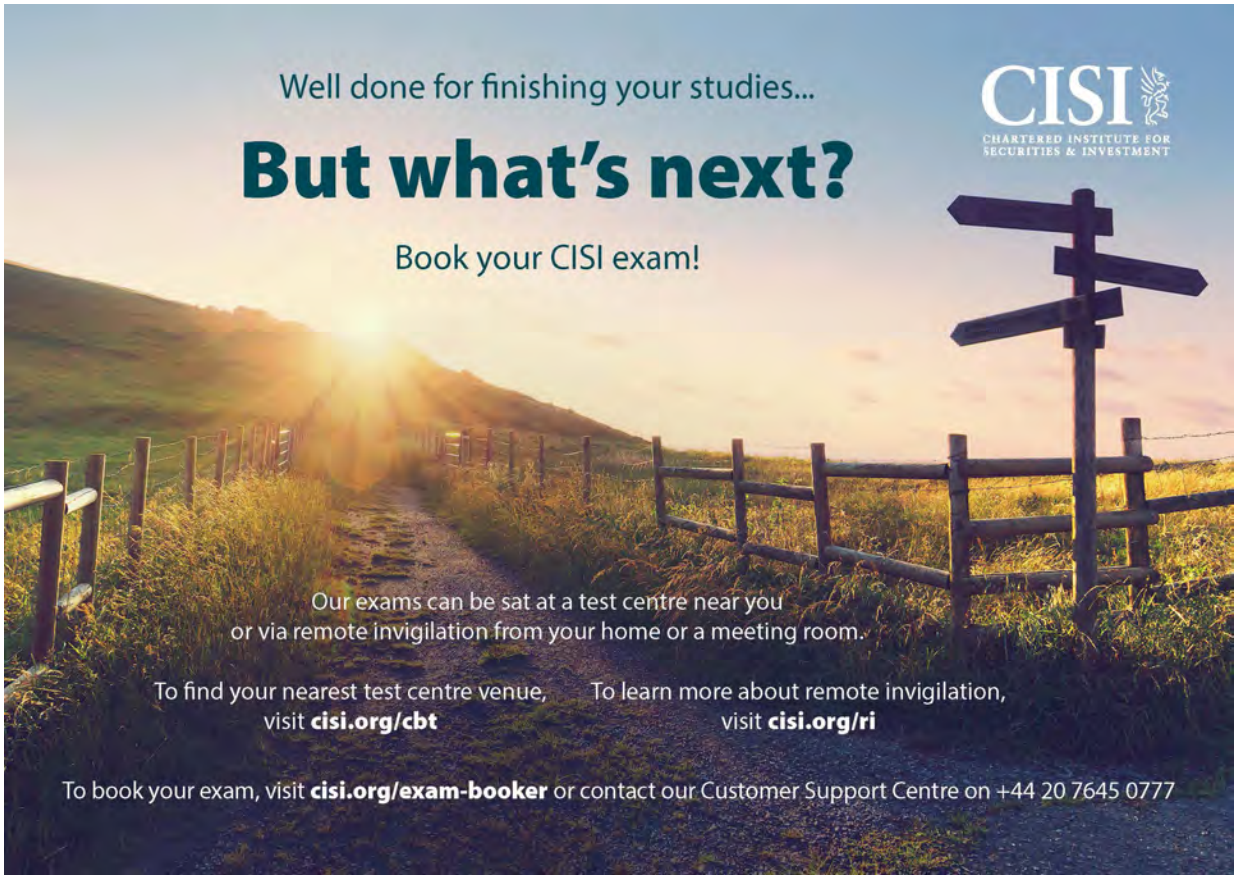
Syllabus Unit/ Element		Chapter/ Section
8.3.3	Be able to apply measures to address factors that impact on the management of a client portfolio likely to require attention: • changes in client circumstances and/or objectives • significant unanticipated market/price movements • changes to the anticipated pattern of cash inflows/outflows • changes in the financial/economic environment • changing regulatory environment • new products and services available • administrative changes or difficulties • investment-related changes (eg, credit rating, corporate actions) • portfolio rebalancing/asset allocation constraints • benchmark review	3
8.3.4	Know the content of an investment report presented to a client and respond appropriately to their questions and feedback	3

Examination Specification

Each examination paper is constructed from a specification that determines the weightings that will be given to each element. The specification is given below.

It is important to note that the numbers quoted may vary slightly from examination to examination as there is some flexibility to ensure that each examination has a consistent level of difficulty. However, the number of questions tested in each element should not change by more than plus or minus two.

Element Number	Element	Questions
1	Securities Analysis	13
2	Taxation, Trusts and Foundations	10
3	Investment Products	9
4	Principles of Investment Risk and Return	10
5	Portfolio Construction	10
6	Investment Advice	7
7	Investment Selection and Recommendation	13
8	Portfolio Evaluation, Maintenance and Review	8
Total		**80**



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Understand AML legislation and regulation, the role of the MLRO, and the sanctions and penalties.

Client Assets and Client Money Essentials
Gain an overview of the principles and high-level rules associated with holding and protecting client assets.

Conflicts of Interest
Consider examples of conflicts of interest, tools, policies and procedures, enforcement action, and good practice.

Data Science
Digitisation of business operations has accelerated the speed of data capture. Harness the value of your data.

Diversity and Inclusion
Targeted at those responsible for diversity, equality and anti-discrimination, and those recruiting and managing.

Financial Crime
Gain an overview of insider dealing, market abuse, money laundering, terrorist finance and financial sanctions.

Financial Planning
Gain an overview of the financial planning process, key terms and the regulatory framework that governs it.

Greenwashing
This module explores the key concepts surrounding greenwashing, the wider implications, and the measures being taken to fight it.

Impact Investing
Aim to take ethical and sustainable investment principles a step further through intentional investment.

Integrity and Ethics
Understand ethics in finance, the importance of trust and trustworthiness, and compliance versus ethics.

Market Abuse
Examine offences, penalties, safe harbours, reporting obligations and the relationship with other offences.

Neuroscience at Work
Learn how to work optimally without harming your health when faced with increased workloads and deadlines.

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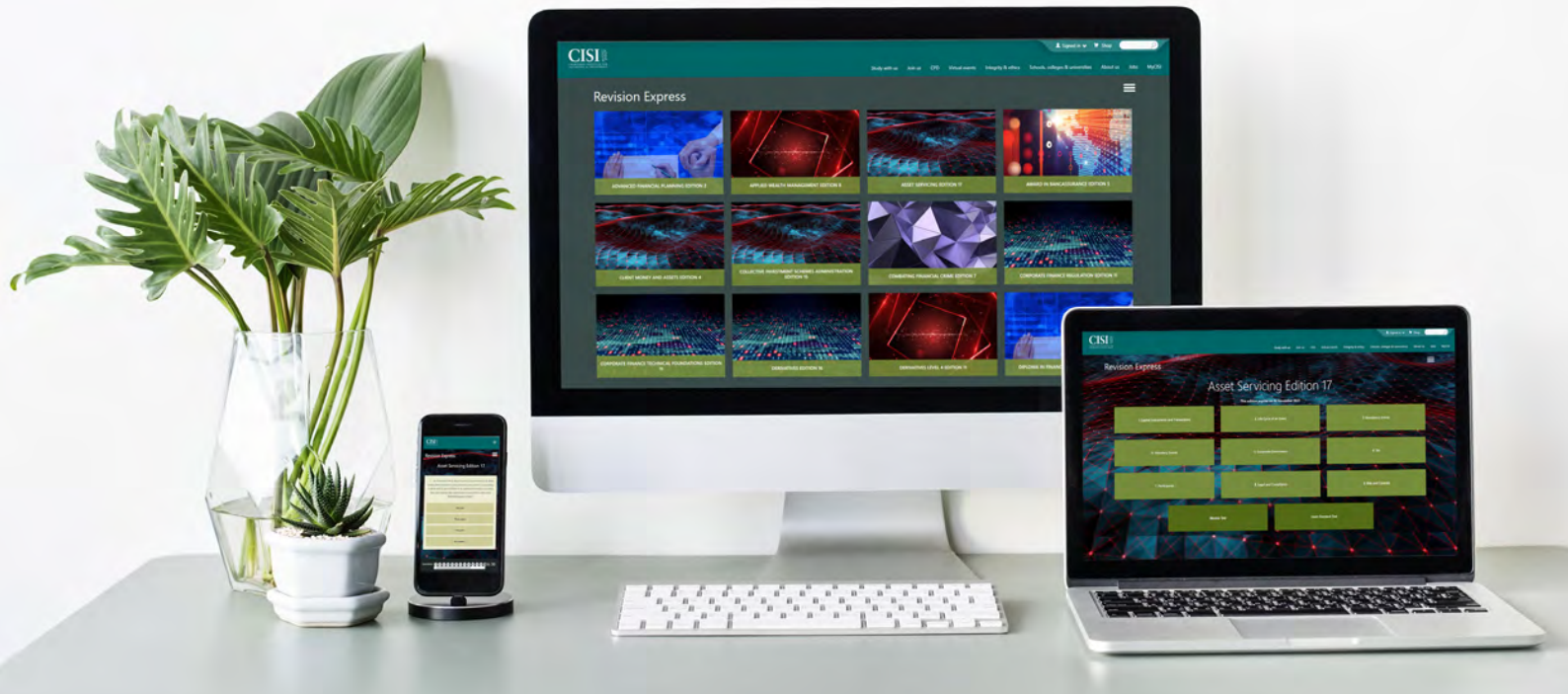

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