Fourth Edition

Fundamentals of Finance

Financial institutions and markets, personal finance, financial management

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Contents

PART 3: PERSONAL FINANCE

Chapter 6: Risk and return

Chapter 7: Personal financial management

PART 4: FINANCIAL MANAGEMENT

Chapter 8: Financial management

Chapter 9: Investment in net working capital

Chapter 10: Financing the firm

Preface

We developed *Fundamentals of Finance* as an introductory finance textbook to meet the needs of business students at Massey University. We believed when we first wrote it (and we still do!) that students need a broad understanding of finance, incorporating the financial system and how it operates, personal financial management, and business finance. Students need to understand the workings of the financial system in order to gain a perspective of the context in which financial decisions are made; they also need to learn how to make financial decisions, both in their personal lives and in their workplaces. Furthermore, students in New Zealand require material that facilitates an understanding of finance in both the Australasian and the global setting.

We wrote this book because we couldn't find one which did all of these things. There were introductory textbooks that focused solely on one aspect of finance – such as business finance – but no textbook that met our requirement of providing a broad overview of finance. Hence, the vision for this textbook was born.

To keep current with changes in financial institutions and markets, personal finance and financial management, we have updated all chapters in this edition with the most recent information and data available at the time of revision.

In Chapter 1 we have introduced new material relating to the allocation of a firm's cash flows, financial crises and ethics in the business environment. Chapters 4 and 5 now include various time value of money applications using Excel. We have broadened the content of Chapter 6 to include measurement of an asset's risk and return, a discussion of the benefits of diversification, and an introduction to the capital asset pricing model. In Chapter 7 we have consolidated the discussion of the concepts of short-term and long-term personal financial planning into one section. Chapter 8 provides more extensive coverage of the risks associated with business decisions, and includes the use of the standard deviation of project returns to measure risk and how ethical corporate behaviour influences firm risk, return and value. Crowdfunding and property lease interests are now covered in Chapter 10, along with an extension of weighted average cost of capital to include cost of preference and ordinary shares calculations. Chapter 12 covers how to use Excel to calculate the internal rate of return.

Features of this book

Fundamentals of Finance provides a unique overview of contemporary finance from an Australasian perspective. We introduce the fundamental tools, techniques and concepts used in finance, then apply them to three major sectors of finance:

- financial institutions and markets
- personal finance
- business finance.

The broad coverage reflects the impact which finance has upon the economy, businesses and individuals, and allows for a more complete perspective of finance than traditional introductory finance textbooks have offered.

Fundamentals of Finance has a strong practical orientation and provides both a suitable foundation for further finance study and an overview for those students who simply want an introduction to finance.

The book is divided into four parts.

- Part 1 assists the reader to understand financial markets and the institutions that operate within them. This provides readers with a foundation upon which to build a more complete understanding of how financial markets assist the flow of funds between individuals and business organisations.
- Part 2 covers the tools, techniques and concepts used in finance. These chapters provide the methodology for applications introduced throughout the book.
- Part 3 explains the concepts of risk and return, and introduces personal financial management techniques that can assist readers to achieve their own financial goals.
- Part 4 describes a business organisation, how it is managed and financed, and its short-term and long-term operating strategies. Upon reaching the final chapter, the reader will realise that many of the techniques used to achieve personal financial goals are also used by business organisations.

Key learning tools

Fundamentals of Finance features several key tools to encourage the learning process.

- Learning objectives are presented at the beginning of each chapter to help students focus on the most important material.
- Definitions of new terminology are highlighted in bold when they are first introduced, then defined inside a box in the margin of the same page as well as in a glossary at the end of the book.
- Where equations are presented, they have been worked in detail so that students can see how each one works. A summary of key equations used in the book is presented in Appendix 1.
- At the end of each chapter, questions and problems are provided for students to test their comprehension of concepts and techniques covered in the chapter. Solutions to selected end-of-chapter questions and problems are included in Appendix 2.

1

Financial systems

In this section, a number of regularly used financial terms and phrases are introduced and explained, so that when they are used in other parts of the text readers should recognise them and understand their meaning. In order to make this learning process easier, new finance terminology will be highlighted in bold print, and defined both alongside the text and in a glossary at the end of the book.

This part of the book introduces the financial system that operates in New Zealand, which is similar to those systems operating in most free-market economies. The financial system deals with the environment in which financial assets are created, held and traded in the economy. Essentially, it facilitates payments, lending and risk transference. Financial assets are held in many forms, from cash to the electronic record for a share. An understanding of the system is important for all types of financial decision-making.

Chapter 1 introduces a number of the concepts covered in later chapters. Finance is defined, and the reasons why it should be studied are explained. Important financial decisions must be made by individuals and organisations, and these decisions are influenced by the financial environment in which we live and operate.

In Chapter 2 the financial assets created by government, financial intermediaries, corporations and individuals are described. Before financial assets can be bought or exchanged, a price has to be set or agreed upon. When a financial asset is being sold for the first time it is called 'a primary issue' and is sold in a primary market; the price could be set by the seller, or the market could determine the price with the new financial assets sold to the highest bidder. Secondary markets exist for the trading of existing financial assets. In these marketplaces, the price set will be the lowest price a seller is prepared to accept and the highest price a buyer is prepared to pay. As new information becomes available in the marketplace, it will be incorporated into financial asset prices.

Chapter 3 looks first at why, when compared with most industries, the financial system is highly regulated. Recurring bank failures with large losses to depositors led to government intervention, as governments are concerned with the stability of the financial system and the role of the central bank – in the case of New Zealand, the Reserve Bank – in promoting it. It then looks at financial intermediaries that facilitate cash flow in the financial system, why they take the form they do, and why this form is constantly changing. Markets have developed over centuries in response to the changing financial needs of participants as well as the changing regulatory controls, and will continue to evolve.

An overview of finance

CHAPTER 1

Learning objectives

By the end of this chapter, you should:

- understand the interdisciplinary nature of finance
- be familiar with the concept of finance and the levels of financial decision-making
- recognise the role that financial markets play in the allocation of scarce resources
- understand the foundations of the market system and the regulatory environment that affect both individuals and organisations.

Introduction

This chapter sets the foundation for the remainder of the book by giving an overview of the topics that are to be covered. At the same time, some of the basic concepts referred to throughout the text will be introduced. A definition of finance is given, as well as the applications, strategies and goals that should be established to ensure that individuals and corporations achieve their objectives within the existing business or regulatory environment.

It should become apparent by the end of the chapter that the **financial planning activities** relating to money management, performed by individuals and households, are very similar to those undertaken by small, medium and large companies. In addition, very few financial decisions can be made without an understanding of the role played by **financial markets** in the allocation of scarce resources.

In fact, the role financial markets play in distributing funds between borrowers and lenders and between individuals and companies is central to the material covered in this book. If financial markets and financial intermediaries did not exist, then individuals would not be able to save or borrow money readily, and companies would find it difficult to raise funds in order to expand their operations. Both individuals and companies use financial intermediaries to obtain funds in order to acquire **real** and **financial assets**, as shown in Figure 1.1. Corporations use financial intermediaries to issue financial assets on their behalf for purchase by other companies and individuals.

The tools used to determine the outcome of any financial planning activities are **time value of money** concepts, and these are covered in Chapters 4 and 5. These tools permit borrowers and lenders to calculate the value of any financial decision in today's dollars so that the best alternative can be selected. Given the uncertainty of outcomes that are to occur in the future, an element of **risk** is associated with these decisions. Risk and the effect it may have on the outcomes (or returns) to be received from financial planning activities conclude this section of the text.

Financial planning activities
Those activities relating to managing money.

Financial markets
Markets used to transfer financial assets between borrowers and investors.

Real assets
Assets that are tangible, such as land, buildings and machinery.

Financial assets
Securities issued by a corporation or economic unit for purchase by another individual or corporate investor.

Time value of money
The concept that a dollar owned today is worth more than the same dollar would be worth in the future.

Risk
The variability of returns resulting from an investment.

Securities
Financial instruments used to finance an organisation's operations.

Financial instruments
Instruments, such as convertible debt or preference shares, that allow funds to be transferred between investors (or lenders) and borrowers.

Lender
Person who grants the use of money or any other asset to another for a set period of time and receives income in return.

Borrower
An individual, or organisation, who obtains or receives something, such as money, temporarily from another individual or organisation, with the intention of repaying it.

Finance
The allocation of scarce resources, such as money, over time.

Shares
Entitlement to a proportion of the ownership of a company or firm.

Bonds
Fixed-interest investments whereby the individual receives a number of payments at fixed intervals until the bond is repaid. They represent the long-term debt obligations of a company or government.

Invest
To apply or put money to some use in order to defer consumption and receive a return in the future.

Definition of finance

The definition of finance has changed over time as its role has been developed and refined. In the early part of the twentieth century, finance was concerned with the receipt and administration of funds on behalf of individuals and companies. Emphasis was placed on the **securities** (or **financial instruments**) used to transfer wealth, the institutions that acted as intermediaries between **lenders** (investors) and **borrowers**, and the financial markets in which they operated. Over time, the definition was broadened to encompass the financing requirements of a firm and, as a result, the emphasis has changed from an external (or outside the firm) approach to one that considers the internal financing requirements of a firm.

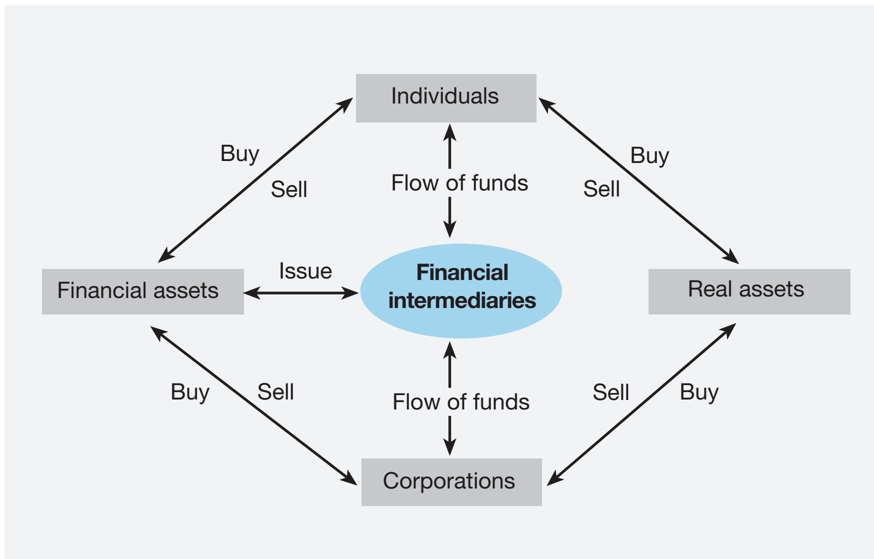

Figure 1.1 The parties involved in the acquisition of real and financial assets

Therefore, it can be said that **finance** is concerned with the allocation of scarce resources over time. These resources may be financial (money, **shares**, **bonds**) or real (property, minerals, goods) and, hence, require different types of decisions to be made. Financial decisions involve obtaining funds and then allocating them for a particular purpose. It is important to determine the costs and benefits associated with financing and investment activities because:

- they are spread out over a period of time
- they are not known with certainty.

In other words, because the costs and benefits arise in future periods, there is an element of uncertainty as to whether or not these forecast costs and benefits will actually occur.

The financial system

When a decision is made to **invest** today, the current consumption of funds is foregone in order to receive a **return**, or profit, in the future; that is, the use of those funds is transferred from one period to another. Figure 1.1 shows that this activity may be concerned with acquiring either a real asset (such as land or a car) or a financial asset (such as shares or bonds) for your own personal use or for use within a company. Once a **company** has decided to invest in a major **asset**, the financial manager will make a financing decision as to the choice of funds to be used to finance the required asset. One of the major objectives of finance is to acquire funds at the lowest possible cost and then use these funds efficiently in order to obtain the desired benefits from the investment.

When implementing the decision to invest, or the decision concerning how to finance a large asset, people look to the financial system to meet their requirements. The **financial system** assists the financial decision-making process by bringing together investors and borrowers. The system operates via a set of **markets**, such as markets for shares, bonds, **foreign exchange** and other financial instruments. **Financial intermediaries**, such as banks, insurance companies and finance companies, act as 'go-betweens', and are used to assist the flow of funds between investors and borrowers. Investors are those who have surplus funds, whereas borrowers are those who require additional funds to meet their financial commitments.

Other parties to the financial system include financial service organisations and regulatory bodies. Financial service organisations provide financial advice to individuals and corporations on either a fee or a commission basis, while regulatory bodies exist to oversee and govern the activities of those who participate in the financial system. The roles of financial markets and the effect of regulation will be discussed later in the chapter.

Return
Gains or losses received from the investment of funds for a given period of time.

Company
A legal entity that operates and functions independently from its owners and, as such, is responsible for all debts incurred in the course of business.

Asset
A commodity or quality that is useful or valuable.

Financial system
A network which operates via a set of financial markets, bringing together investors and borrowers who buy and sell both real and financial assets; includes financial intermediaries, individuals, corporations, regulatory bodies and financial service organisations.

Market
A network whereby buyers and sellers are able to come together, either physically or through communication channels, to trade goods and/or services.

Foreign exchange
The process of converting New Zealand dollars into the currency of another country.

Financial intermediaries
Banks, insurance companies and other organisations that facilitate the flow of funds between investors and borrowers.

Finance as a discipline for study

Why study finance? The study of finance involves money management, and being able to manage funds successfully in a personal or corporate context is essential for the financial well-being of any person or company. There are three main areas of finance:

- financial institutions and markets
- investments
- corporate finance.

Financial institutions and markets are essential for permitting the flow of funds between individuals, corporations and governments. Financial institutions take in funds from savers and lend them to businesses or people who need funds. Financial markets offer another way to bring together those with funds to invest and those who need funds. Securities are issued and sold in financial markets, and there is overlap between the areas of finance because financial institutions operate in financial markets. These markets are important for determining interest rates, pricing securities and trading. The management of funds moving between countries is important for financial managers because of the effect that changes in currency values can have on the cost of imported and exported goods.

A knowledge of investment concepts allows investors and corporate managers to understand how real and financial securities are priced, as well as the risks associated with them. A knowledge of the complexities of the operations of the markets for these assets and the rules and regulations that govern them ensure that informed financial decisions are made.

Corporate finance provides the basis for financial decision-making in companies, where the financial manager's ability to make sound financial decisions is essential to maximising the value of the organisation. Successful decisions benefit both the company and its owners, and good cash (or fund) management is critical to a company's survival. For example, astute credit policies ensure that funds owing to the company are collected on time, while appropriate financing decisions ensure that the company can borrow funds when needed to finance projects and expansion.

However, perhaps the most important reason to study finance is to attempt to understand how to cope with uncertainty. Financial management deals with the risks and uncertainties of activities that may arise in the future. Financial management is forward-looking, and therefore sets objectives in order to achieve a desired result that can be measured in financial terms. Business people require an appreciation of the risks associated with decisions made in an uncertain world so that better-informed financial decisions can be made. This requires an understanding of how the financial system works and how individuals and organisations operate within it.

The interdisciplinary nature of finance

Investors
Individuals who acquire the financial assets of corporations or other organisations in order to receive compensation for the loan of their funds.

Investment
The activity of investing in real and/or financial resources.

Accrual
Accrual accounting records cash and credit transactions as they are incurred and not when the cash flows arise.

Profit
Excess of income over expenses. Alternatively referred to as *net profit*, *net income* or *net earnings.*

Cash flows
The inflow (receipts) and outflow (disbursements) of funds.

Finance, by its very nature, draws from, or builds on, a number of other disciplines, including accounting, the decision sciences, economics and the behavioural sciences, as shown in Figure 1.2.

Finance draws from accounting by using the information gathered and presented by accountants in order to obtain an understanding of the past or present position of an organisation's activities. This information provides financial managers with the data required so that decisions about future projects or funding requirements can be made. In other words, finance concentrates on future company operations and draws from activities occurring in the economy and financial markets in order to be able to make informed financial decisions that will add value to the company. Individual **investors** also use the financial reports generated by accountants in order to assist their personal **investment** activities.

There are two key differences between the disciplines of accounting and finance. Firstly, accountants use an **accrual** method of recording data for compiling financial statements and, in the process, follow established accounting procedures. They report the **profits** (or losses) that have been made from the company's operations. Financial managers, on the other hand, emphasise the inflow and outflow of the company's **cash flows,** and manage these funds to maximise the firm's value. By doing this they make sure that there are sufficient funds available to meet the organisation's financial obligations and schedule of investment in new projects. Secondly, accountants record and report financial information, whereas financial managers evaluate this information and use it as the foundation for collecting additional information. This information is then used to make decisions concerning the expected future returns and risks of the firm's operations.

The analytical tools and techniques that are used in finance to assist financial decision-making are drawn from the decision sciences. These techniques attempt to model reality by describing, for example, the relationship between cash inflows and outflows and, hence, permit comparisons between various projects. Spreadsheet packages, such as Excel™, greatly assist the quantitative analysis of projects and their associated risks. For example, the effect of changes in certain expenses on cash flows can be analysed using Excel's 'what-if' and 'scenario analysis' tools.

Monetary policies
The management of a nation's money supply, and how this relates to interest rates, prices and other economic variables.

Economic theories underpin many of the concepts and techniques used in finance. For instance, all individuals and businesses operate within the New Zealand and global economy and, hence, it is necessary to understand the effects of this economic framework on financial decisions. For example, the **monetary policies** of New Zealand's trading partners will affect the value of

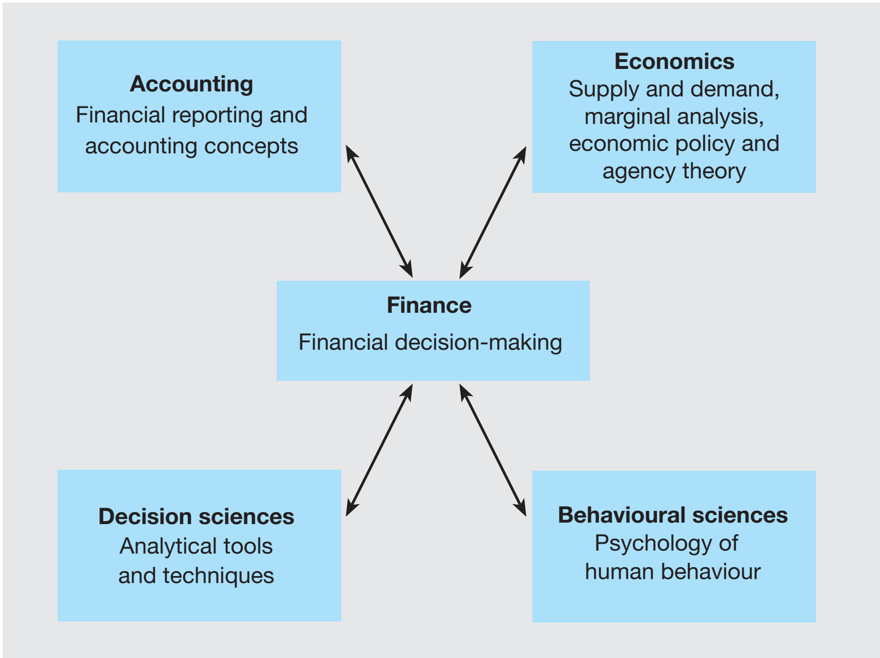

Figure 1.2 The interdisciplinary nature of finance

their **currencies**, and this in turn will cause adjustments to the New Zealand dollar. Movements in currencies cause interest rates to fluctuate so that the costs associated with borrowing or lending money may increase or decrease. The supply and demand for securities or goods is another factor that affects their prices. These concepts are found from studying economics. In addition, when considering financial decision-making, the economic concept of **marginal analysis** is often drawn on. By using this technique, the decision to accept or reject a new project will be made only if the marginal costs associated with the project are less than the marginal benefits to be derived from it.

Currency
An exchange medium within a country; that is, money.

Marginal analysis
Technique used in managerial finance whereby a proposal is accepted only when the added benefits exceed the added costs.

The behavioural sciences help us to understand human behaviour. In the context of finance, an understanding of human behaviour allows us insights into the reasons for the investment and financing decisions made by personal investors and business managers. Everyone has their own perceptions of risk and the rewards they are prepared to accept for taking risks. Therefore a knowledge of the varying personality traits individuals possess will assist those providing investment or financial advice.

Finance and business

The business environment and stakeholder protection

Financial decisions made by managers not only affect the firm's **shareholders** but often also impact upon other **stakeholders**, such as the firm's creditors, suppliers, employees and customers. Stakeholders are defined as those who have a claim on a company's cash flows. For example, cash flows generated by the company will:

- pay employees' salaries and wages
- pay suppliers for the goods and services they provide

Shareholder
Any individual or entity owning shares in a company.

Stakeholders
Groups such as investors, suppliers, regulators, employees, customers and the public with interests in a firm.

- pay creditors interest on the funds they have loaned to the company as well as the principal required to be repaid at maturity
- pay taxes to the government from any surplus the company makes.

As shown in Table 1.1 any surplus (or uncommitted) cash flows will be paid to the owners (i.e. the shareholders) of the company in the form of dividends and/or be reinvested in the company to enable it to expand its operations.

Table 1.1 Allocation of company cash flows

Company cash flows	
Committed	**Uncommitted**
Employees' salaries and wages	Reinvested in company
Payments to suppliers	Dividends paid to owners
Payments to creditors	
Government tax payments	

Finance company
Finance companies lend the funds they have raised in the markets to people and businesses who need money to finance the purchase of durables, such as equipment, cars and home improvements. They normally charge higher interest rates to compensate for the riskier lending.

Financial crises
Major disturbances in financial markets typified by steep declines in asset prices and widespread company failures.

Global financial crisis
A worldwide financial crisis that occurs when financial-market participants recognise the risk and overinflated values of financial contracts, leading to a severe contraction in the flow of funds and rapidly declining asset values.

Act
A codified decision provided by a legislative body.

The decision of a **finance company** to curtail its lending operations due to some customers defaulting on their loans will affect a number of groups. Property developers who have borrowed money from the finance company for housing projects and require additional funds will be unable to complete projects that are already underway. Investors in finance company securities may lose some, or all, of their money. Apart from these two groups, the suppliers of goods to the developer might be affected if they are not paid, and a number of employees might lose their jobs because the money to pay their salaries has dried up. There have been many **financial crises** over the centuries: the Dutch tulip-bulb price boom and crash in 1637, the bank panics and collapses in the eighteenth and nineteenth centuries, the Wall Street stockmarket crash and Great Depression of 1929 to 1939, and the most recent **global financial crisis** (GFC) of 2007 to 2008.

Financial crises can start in several ways: asset price booms and busts; overall uncertainty caused by failures of major financial institutions; mismanagement of financial reforms; or the introduction of new financial products. The recent GFC, which began in the United States, had its origins in a complex interplay of events, including readily available funds for borrowing, low interest rates, rapid growth in housing markets, and financial mismanagement. When US house prices fell, banks and other financial institutions became unwilling to lend to each other for fear that the other parties might have large exposures to the large number of home loans in default.

Security products tied to these home loans also declined hugely in value and, due to the financial links between countries, a large number of overseas financial institutions were also affected. Many, particularly in the United Kingdom and Europe, required government funding assistance to prevent their collapse. Government regulatory systems and corporate governance were deemed inadequate, so governments worldwide have been working on improving both in order to promote an efficient and transparent financial environment. These problems will be discussed further in Chapters 2 and 3.

Given the potentially wide-reaching adverse impacts that can result from business decisions, regulatory bodies play an important role in imposing constraints on such activities in order to protect stakeholders.

Consumer protection laws are embodied in a number of **Acts** that govern the sale of goods and services. The earliest of these is the Sale of Goods Act 1908, which was amended on 8 July 2003 to encompass computer software. This Act ensures that the buyer of a product or service receives the product or service of the quality expected within a specified time and at the agreed price. However, the Act's powers have been reduced by the introduction of the Consumer Guarantees Act 1993, so that its current application is to wholesalers who supply retailers with goods. The Consumer Guarantees Act 1993 is concerned with non-private consumer transactions (i.e. those transactions undertaken with retail organisations) and contains various implied warranties for goods and services supplied or sold to consumers. The Act includes protection for consumers by ensuring that the goods or services they acquire are of the quality and type advertised. Further, it sets out the type of compensation that consumers can expect to receive from the suppliers and manufacturers if any of the goods or services are found to be inferior. The Fair Trading Act 1986 also serves to protect consumers from misleading or deceptive conduct in trade, as well as from the supply of unsatisfactory or unsafe goods and services. These Acts encourage ethical behaviour in the marketplace and put the onus on businesses to provide consumers with products that comply with established safety guidelines and that live up to the promotional promises made.

Another important Act is the Companies Act 1993, which contains provisions for the formation, administration, acquisition and winding up of companies, as well as for the protection of those stakeholders who have contractual obligations with a company. It defines the relationship between the company and its stakeholders by considering the duties of company directors, and sets out the potential liabilities that may be imposed if the directors breach their duties. For example, while it gives directors a great deal of discretion in their business dealings, it seeks to protect the owners (i.e. shareholders) and creditors against any abuse by those in charge of the company's operations. In 2014, the Companies Amendment Act No. 4 was introduced in order to prevent directors acting in bad faith or incurring additional debt if a company was insolvent.

The task of ensuring that the Companies Act is enforced has been delegated to a regulatory body, the Financial Markets Authority (FMA). The FMA is the country's primary investment regulator, and its objective is to promote investor confidence as well as encourage capital investment in New Zealand. The FMA was established in 2011 following criticism that the previous regulatory regime (the Securities Commission of New Zealand) had failed to prevent numerous finance company collapses during 2007 to 2008. The FMA undertook investigations in order to determine whether or not investors were misled by the information provided in **prospectuses** produced by these finance companies prior to receivership.

Prospectus
A document required by law to inform prospective investors in a firm of the details of the security and the firm's financial position.

The FMA also regulates the Financial Markets Conduct Act 2013. This Act seeks to ensure that investors have confidence in the financial markets, as significant abuses in securities trading had occurred in the past. Poor information disclosure and ineffective trading procedures also made the financial market's operations inefficient. An efficiently operating stock exchange is essential in any financial market in order for market participants to feel confident that they are operating in a transparent, fair and competitive market. In order to ensure that the performance of the New Zealand's securities market, known formally as the New Zealand Exchange Ltd and referred to as the NZX, is satisfactory, the FMA reviews its operations annually. During the 2007 annual review, the Securities Commission (the regulator before the FMA) recommended that any attachments to company announcements should immediately be placed on the NZX's website so that all interested parties receive the information as soon as it is made public. Future reviews are expected to focus on specific issues with regard to how the NZX carries out its own market supervision, since it has a statutory responsibility to do so as well.

In some cases the government is a stakeholder acting on behalf of the public. For example, income taxes collected by the government can be used for the benefit of the nation, including providing for the health and education of its citizens. The level and type of tax that should be collected from companies and individuals is covered by the Income Tax Act 2007. All stakeholders should consider the effect of income taxes when analysing investment alternatives, selecting suitable financing arrangements and paying out returns to owners. In the late 1980s, the New Zealand government introduced a dividend imputation system that significantly changed the taxation of income for companies and their shareholders. This system, in effect, eliminated the incidence of the double taxation of profits that had existed previously. Under the old (classical) system, companies were taxed on their earnings and then, when the earnings were distributed as **dividends**, they were taxed again as income in the hands of the shareholders. The new imputation system has affected the relative desirability of different forms of business organisation, and has influenced many of the major financial decisions made by companies and investors.

Dividends
The portion of a company's net profit paid to its shareholders (owners).

Finally, there are two Acts that have been designed to protect the environment for the current and future benefit of stakeholders. The first, the Resource Management Act 1991, was passed with the objective of ensuring that the use, development and management of New Zealand's resources were undertaken in order to provide for the well-being of its citizens. The aim of this Act is to protect the physical and natural resources of the country as well as the air, water, soil and ecosystems that are necessary to sustain a good quality of life.

In 2002, as part of concern over the increasing level of greenhouse gases in the atmosphere and their impact upon the environment, New Zealand signed the Kyoto Protocol. In the spirit of this accord, the Climate Change Response Act 2002 was passed. This Act was amended in 2012 and seeks to stabilise the level of greenhouse gas emissions in order to minimise the potentially harmful effects of global warming. International concern about the impact of global warming on natural ecosystems and food production came into focus in late 2015 at the Paris climate change conference (COP21). New Zealand signed the subsequent Paris Agreement, which will commit the country to carbon reduction initiatives.

The four levels of financial decision-making

There are two segments into which the four main levels of financial decision-making fall, as shown in Figure 1.3. The personal segment comprises the personal level and is present throughout your lifetime, whereas the organisational segment may only affect some members of the population. This latter segment can be further subdivided into three levels whereby a sole proprietor may progress to a partnership and, in time, their organisation could become a corporation. The two middle levels can be interchangeable and, in some instances, one may be omitted. All four levels are described below.

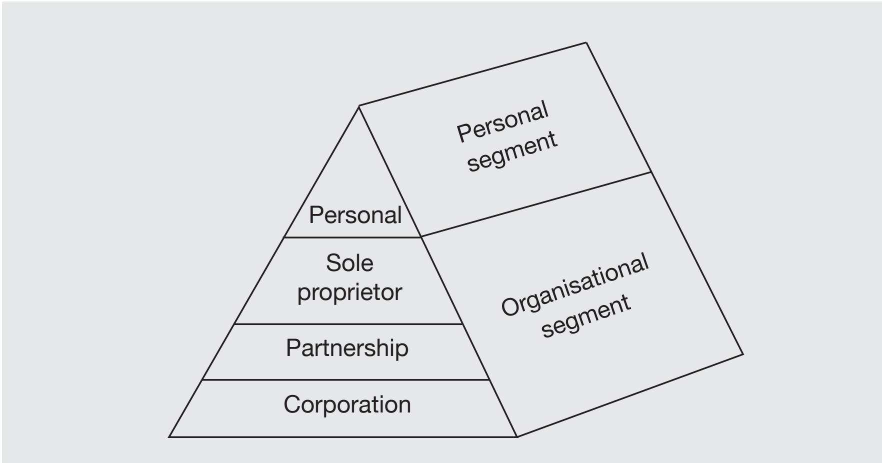

Figure 1.3 **The four levels of financial decision-making**

Personal level

At the personal level, decisions may be made for a household comprising either a single person, a number of people sharing a house, or a family. At this level there are three financial decisions which are usually considered. These are the decisions to:

- consume or save current wealth – that is, to decide whether all income should be spent as it is earned or whether some of the funds could be deferred in order to be used at some time in the future
- borrow additional funds from others in order to help household members achieve their preferred consumption and investment plans
- manage the risks associated with any financial decision in order to determine whether the risks should be reduced or increased.

Sole proprietorship level

These businesses or firms offer goods and /or services, but are owned and operated by one person in order to make a profit. Examples are the corner dairy, the shoe repairer, dry cleaners, etc. The owner of the business may hire a few employees but they make all the decisions concerning the operation of the firm. Funds to operate the business are obtained from personal resources or by borrowing from family members, friends or the bank. The owner assumes **unlimited liability** for the funds invested in the firm. This means that if insufficient revenue is earned to pay interest charges on any loans, the owner's personal wealth may be used to satisfy the financial obligations of creditors.

Unlimited liability
The state of being personally liable for all debts and monies owed by a business or organisation.

Partnership level

Partnerships are firms made up of two or more owners working together to make a profit. These firms pool funds and expertise to finance their operations. A partnership agreement sets out the proportion of total funds to be paid into the firm by each partner, the proportion of profits to be allocated to each partner, and the management decision-making process. A partnership has a finite life, because when one of the partners dies or leaves the firm the existing partnership is dissolved and a new partnership agreement must be drawn up by the remaining partners as well as any new members.

Most partners have unlimited liability so that, in a similar fashion to the sole proprietor, they are jointly and severally responsible for all debts relating to the partnership. Examples of this type of business are professional organisations such as accountancy, legal, architectural and engineering firms.

Limited liability
The state of being liable for all debts and monies owed up to a pre-defined amount.

However, in some cases a limited partnership may exist in New Zealand, whereby one or more partners may hold a **limited liability** in the firm, as long as there is at least one unlimited partner in the organisation. Limited partners do not usually participate in the firm's management.

Corporation level

These organisations are entities that have been created by law. They are distinct from their owners and, as such, are responsible for all debts incurred during the course of their business operations. A corporation, or company, can sue and be sued, acquire property and enter into contracts. The company pays its own taxes and is governed by its constitution. The constitution lists the purpose of the business, the number of shares to be issued by the company, the number of directors to be appointed to the board, as well as any other rules that will govern its operations.

Debt
An obligation of one party (the borrower) to repay a specified amount of money to another party (the lender).

Equity
Money, in the form of shares, supplied to a company or organisation by its owners.

Companies raise two forms of finance to support their operations. These are debt and equity. **Debt** is raised from individuals, and institutions, who have surplus funds and who invest their money in the company. The company pays interest to investors who have lent them money, and considers the debt to be a liability because at a designated future date they will have to repay the money they have borrowed.

Equity is the other form of finance used by companies; in this case, the company issues shares to individuals and institutions who become owners of the company. The proportion of ownership they hold depends on the number of shares purchased. The shares can be held indefinitely, or sold at the investor's (owner's) discretion. The investors usually receive a dividend for each share they hold.

Although there are a number of private corporations in existence, in this book we will focus mainly on publicly traded companies. These companies issue shares to the public, who then become the owners (shareholders) of the company. However, although the shareholders own the company, they do not manage its day-to-day operations. In order to do this, they appoint a board of directors who, in turn, appoint managers to conduct the company's affairs. Hence, the board acts as the representative of the shareholders, and it attempts to appoint managers who will act in the owners' best interests.

The separation of ownership and management is a distinct feature of corporations, as it ensures that the company is set up as a permanent entity; that is, it does not have a finite life. In addition, the structure permits shareholders to transfer the ownership of their shares to others, and allows managers to leave the organisation without causing major disruption to its operations. In other words, the separation of these two activities creates flexibility and continuity.

Liquidation
The process of winding up the assets of an organisation and distributing the funds to creditors and owners.

Corporations have limited liability, which means that the owners' personal wealth is protected, although if the corporation cannot service its debt then it can be **liquidated**. In this case, all creditors will be paid from the sale of company assets, and shareholders will receive only those funds that remain; that is, shareholders receive the residual funds on the winding-up of the company's affairs.

The ethics dilemma

Ethics in general deal with morality, or the ability to know the difference between right and wrong. In the case of business, ethics relate to the moral principles by which a company operates. Many organisations possess a code of ethics that sets out the standards of professional conduct for employees to follow in dealings with other employees, stakeholders and customers.

Ethics
The ability to know the difference between right and wrong.

There are two main areas where ethical issues associated with companies most commonly arise: agency problems, and conflicts of interest.

Agency problems

Agency problems may arise when managers, who are hired as agents of a company's owners (or shareholders) and are thus expected to work in the owners' best interests, have different goals from the owners. To some extent this problem may be overcome by structuring the remuneration packages paid to senior management so as to be directly based on performance. In most cases the package would consist of a salary plus incentives and/or bonuses; the incentive might include share acquisition, so that a manager has a direct interest in the performance of the company. As an owner of the company, a manager will want it to succeed so that its value will increase, as they will in turn receive compensation from an increasing share price and an increasing dividend stream.

Agency problems
Issues that arise when managers, who are hired as agents of a company, work in their own interests rather than in those of the shareholders.

An example of agency conflict would be when a managing director uses the company's resources to fund their own personal interests in related companies. The funds for these expenditures may not be disclosed in financial statements, so that the owners and stakeholders are unaware of the additional liability carried by the company. In this situation the company employing the managing director is unknowingly acting as a source of funds for the managing director's other ventures.

Conflicts of interest

Conflicts of interest arise when a manager or director uses information pertaining to the company to benefit themselves or another organisation. For example, a director and/or shareholder might try to persuade the company's owners that a segment of the organisation is not performing well and is unlikely to do so in the future; they could then suggest that it is in the company's best interests for this segment to be sold to a consortium in which the manager or director has an interest for a nominal sum.

Conflicts of interest
Issues that arise when a manager, or director, uses company information to benefit themselves or another organisation.

There are a number of organisations that ensure that ethical behaviour is observed in the New Zealand marketplace. The FMA oversees the conduct of the financial markets to ensure that operations are transparent and efficient, while NZX oversees publicly listed companies to ensure that they operate in an ethical manner. The companies themselves have trustees and auditors whose job it is to make sure that a true and fair picture of the company's operations are portrayed in its literature. If trustees or auditors find inaccuracies that might affect the performance of the company, it is their duty to detail these problems so that suppliers, creditors and investors can make informed decisions.

Financial markets

Individuals, sole proprietorships, partnerships and corporations all receive and disburse funds. Surplus funds are put away for use at a later time. In today's environment, people and businesses are using electronic means of transferring cash from one source to another. In each instance, banks facilitate these transactions. Banks do not operate in isolation, but are part of a market system which facilitates the flow of funds between entities within New Zealand and throughout the world. Being part of a market means the banks and, in particular, the corporations compete, create and transfer wealth and, in the process, face the risks associated with doing this.

The modern financial system has developed as a consequence of the features of capitalism and the rights that it endows. These include:

- the existence of private wealth
- freedom of choice
- incentives
- efficient markets
- the role of government.

Each of these concepts will be discussed further below.

The existence of private wealth

Pure market system
A system in which all scarce resources are freely allocated so that the maximum benefit is received by everyone as a result of the allocation.

Physical assets such as money, houses, cars, plant and machinery, and human capital in the form of education and intellectual property, are all forms of wealth. Historically, the proportion of ownership and wealth has oscillated between the state and individuals. However, if a **pure market system** existed, then all wealth would be owned by private individuals.

Private wealth endows owners with legally enforceable rights. If wealth is owned by an individual, or organisation, then the owner has the right to decide how the wealth will be used. For example, if you own a house, then you have the authority to decide who will live in it. However, if you are renting the house then the owner has the right to ask you to move out. The same exists with any asset: the owner has the power to determine how and when that asset can be used.

Furthermore, the ownership of private wealth means that individuals will utilise their own resources efficiently; that is, they will seek more wealth, not less. In this way, they will try to maximise their wealth by optimising its use and allocating their scarce resources in a manner that will provide more opportunities for everyone. In other words, by owning wealth, such as a car, you will look after it better than a tourist would look after a rental car.

Freedom of choice

A market system permits different options to be tried and different participants to freely enter and exit the market. In such a system, organisations and entrepreneurs will compete for scarce resources, and if their choice of investment alternative is successful, they will continue to invest in other projects. However, if bad choices are made, then the organisation will become unproductive and fail. In the market system, some people will succeed whereas others will fail. It is competition and successful decisions that determine the winners and losers. In this system, losers exit the market because there is no safety net to catch them if they fail and, therefore, they are prevented from continuing to inefficiently allocate scarce resources.

Incentives

Incentives are motivators – they motivate people to take risks. Without incentives, many people would undertake only the projects that they were convinced would succeed and, in the process, might implement only those projects generating a low level of profit. The workers would avoid the risky and more lucrative projects. Under the market system, incentives encourage workers to undertake riskier projects that would generate significantly higher profits. It is the motivation of increased profits which permits an allocation of scarce resources in such a way that the goods and services offered match those the consumer demands. Therefore, it is apparent to all that the allocation of resources has been careful, efficient and self-sustaining.

Efficient markets

In order for markets to work, all participants need to be informed, therefore an **efficient market** is said to be one where the price of any good (i.e. asset) fully reflects all information associated with it. However, the market consists of individuals whose interpretation of this information will differ, so that whenever goods are traded, it is the forces of supply and demand which will determine the price that will clear the market of all goods offered for sale. If prices do not reflect all information, based on the information individuals have received and incorporated into the price they expect to pay for an item, the market for the product may not be satisfied. In other words, the price may be too high for purchasers to pay or too low for sellers to accept.

Efficient market
This market exists when the price of any good (asset) fully reflects all information associated with it.

Government planners seek to have a market that is efficient by encouraging competition and the provision of good-quality information in order for traders to be confident they are in possession of all relevant facts. Some of the conditions this market should possess are that:

- supply and demand determines the price of **homogeneous** goods
- prices reflect all available information
- many individuals and firms are able to trade
- there are no transaction costs (or costs are minimal)
- participants are free to enter and exit the market at any time.

Homogeneous
Something that is of a similar kind or nature.

The presence of an efficient market implies that a person who has access to all available information is able to make a fully informed decision. However, there is no guarantee that the individuals themselves will make the right decision. Furthermore, in an efficient market, competition between traders provides the incentive signals to ensure resources are allocated efficiently so that the maximum benefit will be received. No resources will be wasted, because supply and demand will be equalised through the mechanism of price changes. For example, if the price of a particular line of goods being offered for sale is set properly, all the goods will be purchased; that is, the supply of the goods will meet the demand for them.

The role of government

The market system that has been described above is, in the main, self-regulating. However, there is still a role for a government to play to make sure that the market system operates properly. The tasks required from a government are to:

- act as an umpire whenever disputes among traders in the market occur
- maintain a legal system that enforces contracts and keeps the playing field level and fair
- provide quality information disclosure so that market participants can make better decisions

- maintain a defence system to protect the nation's borders, as well as a police service to protect the public's interests
- create a climate that will encourage individuals to engage in business by giving them the right to own property and operate in an efficient market, receive the full enjoyment of the incentives resulting from their labours, and have minimal disincentives such as compliance costs and taxes.

Public goods
Goods or services, such as education, provided by the government for use by members of its society.

Externalities
Influences on the activities of an individual or business that are not controlled by the individual or business.

The government should also grant solutions to economic problems that the market cannot or will not provide. Examples of these are **public goods** and **externalities**. Public goods are those products or services, such as education, health, bridges and roads, which may not generate a profit for the resources allocated to them. These goods are public because everyone usually has the right to use them and no firm or individual should be denied access. As a result, it is not possible to charge for the use of these goods, and therefore it must fall to the government to provide and maintain them.

Externalities are those outcomes from the production and exchange of goods that are deemed to be undesirable, such as pollution or exploitation. They do not necessarily arise from the use of the market system as such. Pollution may occur because no single individual or firm owns the air or water. As a result, there is no incentive provided by the market system to keep the environment clean. This situation means that the polluter is able to charge less for the goods produced because they do not have to have systems in place to control the emissions. One way to overcome the problem is to regulate the polluters and prevent the production of any goods that pollute the environment. However, the ideal would be a market-determined price that would permit the goods to be produced at a price that would allow the firm to instal systems to minimise pollution while at the same time making a profit on its operations.

In conclusion, a market system will affect the decisions of individuals and firms on the one hand, but on the other hand the main outcome of a competitive system is a more efficient utilisation of resources that provides greater community wealth. This system permits an optimal economic solution to resource allocation, and is also an ethical solution because it encourages responsible behaviour by individuals in order to succeed. For example, if traders do not have a good reputation, then the market will punish them by not allowing them to trade and make a living. In addition, an efficient market only discriminates on the price an individual is prepared to pay for goods, thus making it a fair system that requires only an individual's ability and willingness to work hard for them to be successful.

Careers in finance

It can be seen from Table 1.2 that there are a number of interesting occupations that can be found in the finance industry. Employment opportunities commonly exist with industrial and other companies, within the securities industry, and with banks. Some of the positions, and the activities associated with them, are also described briefly.

Table 1.2 Career opportunities in finance

Organisation	Position	Activities
Companies	Financial analyst	Preparation and analysis of a company's financial plans and **budgets**. Assessment of a company's risk–return profile.
	Cash manager	Maintenance, control and optimisation of a company's daily cash balances.
	Credit manager	Credit application evaluation, and management of accounts receivable.
	Project analyst	Evaluation and recommendation of proposed projects.
Securities	Financial planner	Advice to clients regarding budgeting, investment, insurance, real estate, taxes, retirement and estate planning. The development of financial plans to meet clients' requirements.
	Sharebroker	Agent for buying and selling securities, as well as advising clients on their financial affairs.
	Securities analyst	Analysis of economic activities and their effect on industries' and companies' shares and other securities. Provision of advice to securities firms and their customers, fund managers and insurance companies.
	Investment bank analyst	Advice on mergers, acquisitions and divestitures in addition to other business and economic issues. Origination, development and sale of new issues for clients.
Banks	Retail bank manager	Customer service supervision of loans, mortgages, deposit and investment accounts. Supervision of branch banking operations.
	Loan officer	Evaluation of the credit of personal and business loan applications. Overseeing the credit relationship between business customers and the bank.

Budget
A forecast of expected future income and expenses that will assist the planning and control of an individual's, or organisation's, financial management.

Conclusion

The purpose of this chapter was to lay the foundations of the areas to be covered in this book. Finance is described as involving the allocation of financial and real assets over time. One objective of finance is to acquire funds at the lowest possible cost and to use these funds efficiently to obtain the desired benefits from the investment. By its very nature, finance is interdisciplinary and draws primarily on accounting and economic principles in order to obtain the information from which informed decisions concerning the financing and investment of assets can be made. None of these decisions can be made in isolation, and the financial markets play a pivotal role in determining the allocation of scarce resources. Both individuals and organisations (at all levels of the organisational segment) make similar financial decisions and, as a result, both segments benefit from some knowledge of the regulations governing the business environment.

The next two chapters of Part 1 provide an overview of financial markets and the financial intermediaries that assist with the receipt and disbursement of funds between borrowers (issuers) and lenders (investors). No individual or organisation operates in isolation, and it is important that the financial environment in which they operate is understood.

Part 2 covers the tools required to value financial decisions. These chapters help you to understand time value of money and how it affects financing and investment decisions. For example, time value of money techniques help us to understand how interest is charged on things like a student loan or a home mortgage, how a savings goal can be achieved, and so on.

Personal finance is introduced in Part 3 to help you to plan for your own financial well-being. Financial decisions involve differing levels of risk, and Chapter 6 describes the relationship between the risk of an investment and the returns required by investors. Chapter 7 describes the short-term and long-term financing requirements of individuals, such as financing the purchase of a house or planning for retirement, then concludes by covering financing requirements and the development of a business plan for purchasing a small business.

Finally, in order to complete the progression from the individual financial decision-making, the investment and financing aspects of larger companies will be described. Part 4 commences with an overview of the goal of the firm and the role of the financial manager, before describing the management of the firm's short-term resources and the financing of the firm. Part 5 comprises two chapters, which deal with investment in long-term assets, such as plant and equipment. The analysis of potential investments is an important process that is critical in ensuring that anticipated returns will be sufficient to meet financing costs.

SELF-TEST QUESTION

A bank is a financial intermediary that can be used by individuals, sole proprietors, partnerships and corporations to assist their financial management objectives. Describe the role banks play to enable these objectives to be achieved.

ANSWER TO SELF-TEST QUESTION

Personal

- Permit individuals to deposit surplus funds that will earn interest.
- Provide loans, to acquire real assets, in the form of mortgages and personal borrowings.
- Provide access to foreign currency when required for overseas travel or the purchase of goods and services.

Sole proprietor/partnership

- Act as a depository for surplus funds from business operations.
- Provide loans to fund the organisation's growth or acquisition of real assets.
- Provide the foreign exchange required for the importing and exporting of goods and services.

Corporations

- As in sole proprietorship / partnership.
- Act as the intermediary for the issue of the company's financial assets (i.e. debt or equity) to external parties such as individuals or institutions.

QUESTIONS AND PROBLEMS

1 Define the term *finance*.

2 How does financial decision-making differ from decision-making concerned with real resources?

3 List and describe the four levels of financial decision-making.

4 What are the basic foundations of a market system? List and describe them.

5 Explain how the financial markets and financial intermediaries assist individuals and companies.

6 What do the words *decision to invest* mean?

7 How does studying finance assist an individual in managing their financial affairs?

8 Compare and contrast the disciplines of finance and accounting.

9 Describe the dividend imputation system that exists in Australia and New Zealand.

10 Define the word *stakeholder*.

11 Describe ethics and the role of ethics in a business environment.

12 Builderup Ltd, a property development company, is constructing an apartment building and has been forced into liquidation. Who are the stakeholders likely to be affected, and how will they be affected?