CHAPTER 1

GETTING STARTED—PRINCIPLES OF FINANCE

Chapter outline

Principles P1, P2, P3, P4 and P5 applied

This book examines a wide range of financial decisions that people make in their business lives as well as in their personal lives. In this chapter, we lay a foundation for the entire book by describing the boundaries of the study of finance, the different ways that businesses are organised and the role that the financial manager plays within the firm. We also address some of the ethical dilemmas that the financial manager must face daily. Finally, we take an in-depth look at the five principles of finance—P1 Principle 1: **Money has a time value**, P2 Principle 2: **There is a risk–return trade-off**, P3 Principle 3: **Cash flows are the source of value**, P4 Principle 4: **Market prices reflect information** and P5 Principle 5: **Individuals respond to incentives**—that underlie all financial decisions.

On any given day, Apple, Inc. [AAPL] will sell thousands of iPhones, iPods, iPads and personal computers. In addition to myriad production and pricing decisions, Apple must evaluate potential new products, make personnel choices and consider new locations for Apple retail shops. Because each of these decisions affects the risk of, timing of and amount of cash generated by Apple's operations, we can view all of them as financial decisions.

Like Apple, you also face financial decisions in your personal life. Whether evaluating the terms of credit card offers or weighing up whether to study for a postgraduate degree right after graduation or to work full-time for a year or two, you will find that the same fundamental principles that guide business decisions are useful to you in making personal financial decisions.

Source: Goran Bogicevic/Alamy Stock Photo

Welcome to the world of finance

FINANCE SPOTLIGHT

YOUR MONEY

For the rest of your life, you will be both working and living in a world where you will be making choices that have financial consequences. Corporations make money by introducing new products, opening new retail outlets, hiring the best people and improving their productivity. All of these actions involve investing or spending money today with the hope of generating more money in the future. Regardless of your course of study, after graduation you are likely to be working for an organisation where your choices have uncertain costs and benefits, both now and in the future. This will be the case if you are working for a major corporation such as BHP Billiton, starting your own firm or working for a not-for-profit organisation such as World Vision Australia. Moreover, you will be faced with a variety of personal choices—whether you can afford a new car or a mortgage or how much to begin investing in a superannuation fund—that will also require you to evaluate alternatives that involve uncertain future payoffs. Regardless of your course of study, there is simply no getting around the fact that you will be making financial choices throughout your life.

Your turn: See **Study Question** 1–1.

1.1 Finance: an overview

OBJECTIVE 1

Understand the importance of finance in your personal and professional lives and identify the three primary business decisions that financial managers make.

To begin our study of business finance, we present an overview of the field and define the types of decision addressed by the study of business finance. We also discuss the motivation for studying finance and briefly introduce the five principles of finance.

What is finance?

Finance is the study of how people and businesses evaluate investments and raise capital to fund them. Our interpretation of an investment is quite broad. When Fitbit introduced the

Fitbit Blaze, an activity-focused smartwatch, in 2016 it was clearly making a long-term investment. The firm had to devote considerable expense to designing, producing and marketing the smartwatch in the hope that it would eventually capture a sufficient amount of market share from the Apple Watch and the Android Wear smartwatch to make the investment worthwhile. But Fitbit also makes an investment decision whenever it hires a new graduate, knowing that it will be paying a salary for at least six months before this employee will have much to contribute.

Thus, three basic questions are addressed by the study of finance:

1. **What long-term investments should the firm undertake?** This area of finance is generally referred to as **capital budgeting**.
2. **How should the firm raise money to fund these investments?** The firm's funding choices are generally referred to as **capital structure** decisions.
3. **How can the firm best manage its cash flows as they arise in its day-to-day operations?** This area of finance is generally referred to as **working capital management**.

We will be looking at each of these three areas of business finance—capital budgeting, capital structure and working capital management—in the chapters ahead.

Why study finance?

Even if you are not planning a career in finance, a working knowledge of finance will take you far in both your personal and professional lives.

Those interested in management will need to study such topics as strategic planning, personnel, organisational behaviour and human relations, all of which involve spending money today in the hope of generating more money in the future. For example, in 2016 General Motors [GM] made a strategic decision to invest US$500 million in the ride-hailing start-up Lyft. GM and Lyft have joined together to develop a network of self-driving cars that riders can call up on demand; in the short run, GM will provide cars to Lyft drivers through short-term rentals in key US cities. This was, to say the least, a major strategic decision that will impact on both GM and Lyft for many years.

Similarly, marketing graduates need to understand and decide how aggressively to price products and how much to spend on advertising those products. Because aggressive marketing costs money today but generates rewards in the future, it should be viewed as an investment that the firm needs to finance. Production and operations management graduates need to understand how best to manage a firm's production and control its inventory and supply chain. These are all topics that involve risky choices that relate to the management of money over time, which is the central focus of finance.

Although finance is primarily about the management of money, a key component of finance is the management and interpretation of information. Indeed, if you pursue a career in management information systems or accounting, finance managers are likely to be your most important clients.

For the student with entrepreneurial aspirations, an understanding of finance is essential—after all, if you can't manage your finances you won't be in business very long.

Finally, an understanding of finance is important to you as an individual. The fact that you are reading this book indicates that you understand the importance of investing in yourself. By obtaining a university degree, you are clearly making sacrifices in the hope of making yourself more employable and improving your chances of having a rewarding and challenging career. Some of you are relying on your own earnings and the earnings of your parents to finance your education, whereas others are raising money or borrowing it from the **financial markets**, institutions that facilitate financial transactions.

Financial decisions are everywhere, both in your personal life and in your career. Although the primary focus of this book is on developing the corporate finance tools and techniques that are used in the business world, you will find that much of the logic and many of the tools we develop and explore along the way will also apply to decisions you will be making in your own personal life. In the future, both your business and personal lives will be spent in the world of finance—and because you are going to be living in that world, it's time to learn about its basic principles.

We will take an in-depth look at these principles at the end of this chapter. As you will see, you do not need an extensive knowledge of finance to understand these principles, and, once you know and understand them, they will help you understand the rest of the concepts presented in this book. When you are looking at more-complex financial concepts, think of these principles as taking you back to the roots of finance.

Before you move on to 1.2

Concept check 1.1

1. What are the three basic types of issue that arise in business that are addressed by the study of business finance?
2. List three non-finance careers to which the study of finance applies.

1.2 Three types of business organisation

OBJECTIVE 2

Identify the key differences between the three major legal forms of business.

Although numerous and diverse, the legal forms of business organisation fall into three categories: the sole proprietorship, the partnership and the corporation. Table 1.1 (overleaf) provides a quick reference guide for organisational forms.

Sole proprietorship

The **sole proprietorship** is a business owned by a single individual who is entitled to all of the firm's profits and is also responsible for all of the firm's **debt** (what the firm owes). In effect, there is no separation between the business and the owner when it comes to debts or being sued. If sole proprietors are sued, they can lose not only all they invested in the proprietorship but also all of their personal assets. Sole proprietorships are often used in the initial stages of a firm's life. This is, in part, because forming a sole proprietorship is very easy; there is minimal paperwork required and no partners to consult—the founder of the business is the sole owner. However, these organisations typically have limited access to outside sources of financing. The owners of sole proprietorships typically raise money by investing their own funds and by borrowing from banks. However, because there is no difference between the sole proprietor and the business he or she runs, there is no difference between personal borrowing and business borrowing. The owner of the business is personally liable for the debts of that business. In addition to banks, personal loans from friends and family are important sources of financing for sole proprietorships.

Partnership

A **general partnership** is an association of two or more people who come together as co-owners for the purpose of operating a business for profit. In most partnerships the maximum number of partners is 20, although some types of professional partnership have different limits. For example, a partnership can consist of up to 50 actuaries, medical practitioners, patent attorneys, trademark attorneys or stockbrokers, up to 100 architects, pharmacists or veterinary surgeons, up to 400 legal practitioners or up to 1000 accountants! Just as with the sole proprietorship, there is no separation between the general partnership and its owners with respect to debts or being sued. The primary point of distinction from a sole proprietorship is that the **partnership** has more than one owner. Just as is the case with a proprietorship, the profits of the partnership are taxed as personal income. An important advantage of the partnership is that it provides access to **equity** (ownership), as well as financing from multiple owners in return for partnership **shares** (units of ownership).

In a **limited partnership**, there are two classes of partner: general and limited. The **general partner** actually runs the business and faces unlimited liability for the firm's debts, whereas the **limited partner** is liable only up to the amount he or she invested. The life of the partnership, like

Table 1.1 Characteristics of different forms of business

Business form	Number of owners	Are owners liable for the firm's debts?	Do owners manage the firm?	Does an ownership change dissolve the firm?	Access to capital	Taxation
Sole proprietorship	One	Yes	Yes	Yes	Very limited	Personal tax
Partnership	At least two, but generally from 2 to 20; certain kinds of partnership have different limits	Yes; each partner has unlimited liability	Yes	Yes	Very limited	Personal tax
Limited partnership (with general partners (GPs) and limited partners (LPs))	A minimum of two owners with at least one GP, but no limit on LPs	GPs—unlimited liability LPs—limited liability	GPs—manage the firm LPs—no role in management	GPs—yes LPs—no*	Limited	Personal tax
Private company	Maximum of 50 non-employee shareholders	No	Generally, but not necessarily	No	Generally, the greater the size the easier the access	The firm pays tax at the company tax rate, and Australian resident shareholders receive credit for any company tax paid prior to determining their tax liability
Public company	Unlimited	No	No—although managers generally have an ownership stake**	No	Very easy access	

*It is common for partnerships to require approval from the other partners before a partner's ownership can be transferred.

**Owners are not prohibited from managing the company.

that of the sole proprietorship, is tied to the life of the general partner. In addition, it is difficult to transfer ownership of the general partner's interest in the business—this generally requires the formation of a new partnership. However, the limited partner's shares can be transferred to another owner without the need to dissolve the partnership, although finding a buyer may be difficult.

Corporation

If very large sums of money are needed to build a business, then the typical organisational form chosen is the **corporation**. As early as 1819, United States Supreme Court Chief Justice John Marshall set forth the legal definition of a corporation as 'an artificial being, invisible, intangible, and existing only in the contemplation of law'.[1] The corporation legally functions separately and apart from its owners (the **shareholders**). As such, the corporation can individually sue and be sued, purchase, sell or own property, and its personnel are subject to criminal punishment for crimes committed in the name of the corporation.

There are three primary advantages of this separate legal status. First, the owners' liability is confined to the amount of their investment in the company's shares. In other words, if the corporation is liquidated then the owners can only lose their investment in those shares. (In some cases, shares that have been issued to investors are only partially paid for; in this situation the company is entitled to call upon the shareholders to pay the unpaid portion of their shares, but this is the extent of those shareholders' liability.) This limited liability is an extremely important advantage of a corporation. After all, would you be willing to invest in Qantas if you would be held liable if one of its aircraft crashed? The second advantage of separate legal status for the corporation is that the life of the business is not tied to the status of the investors. The death or withdrawal of an investor does not affect the continuity of the corporation. The management continues to run the corporation when the ownership shares are sold or passed on through inheritance. For example, Peter Degraves founded Cascade Brewery, one of Australia's oldest companies, in 1824. Degraves died in 1852 but the corporation lives on. Finally, these two advantages result in a third advantage: the ease of raising capital. It is much easier to convince investors to put their money into a corporation knowing that the most they can lose is what they invest, and that they can easily sell their shares if they wish to do so.

A corporation is legally owned by its current set of shareholders, or owners, who elect a board of directors. The directors then appoint management who are responsible for determining the firm's direction and policies. Although even very small firms can be organised as corporations, most often larger firms that need to raise large sums of money for investment and expansion use this organisational form. As such, this is the legal form of business that we will be examining most frequently in this book.

A corporation in which the liability of the owners is limited is denoted by the letters 'Ltd' (which is an abbreviation for 'limited') after the company name. (Sometimes, mining companies undertaking risky ventures in order to encourage investors can be set up so that even if shares are partially paid for, shareholders have no further liability to repay the unpaid portion of their shares; these companies are referred to as 'No Liability' companies and are denoted by the letters 'NL' after the company name.)

One of the drawbacks of the corporate form in many countries (such as the United States) is the double taxation of earnings that are paid out in the form of **dividends**. When corporations in those countries earn a profit, they pay tax on that profit (the first taxation of earnings) and pay some of that profit back to the shareholders in the form of dividends. Then the shareholders pay personal income tax on those dividends (the second taxation of earnings). A tax system in which company profits are subject to double taxation is sometimes referred to as a classical tax system.

Australia introduced the dividend imputation system in 1987 to overcome this problem. Under an imputation system, shareholders receive credit for the company tax paid by the company, and therefore effectively pay tax only on dividends received based on the difference between the company tax rate and their personal tax rate. The imputation system will be covered in more detail in Chapter 3.

When entrepreneurs and small-business owners want to expand, they face a trade-off between the benefits of the corporate form and the potential loss of control that accompanies it. For this reason, an attractive alternative to the public corporation (in which the public at large are invited to purchase shares) for such a small business is the **private company** (denoted by the letters 'Pty' before the letters 'Ltd' after the company name, standing for 'proprietary', which means privately owned). A private company combines the control enjoyed by sole proprietorships or partnerships with the limited liability benefit of a corporation.

Table 1.1 describes some major characteristics of the different forms of business. As you can see, the corporation is the business form that provides the easiest access to capital, and as such it is the most common choice for firms that are growing and need to raise money.

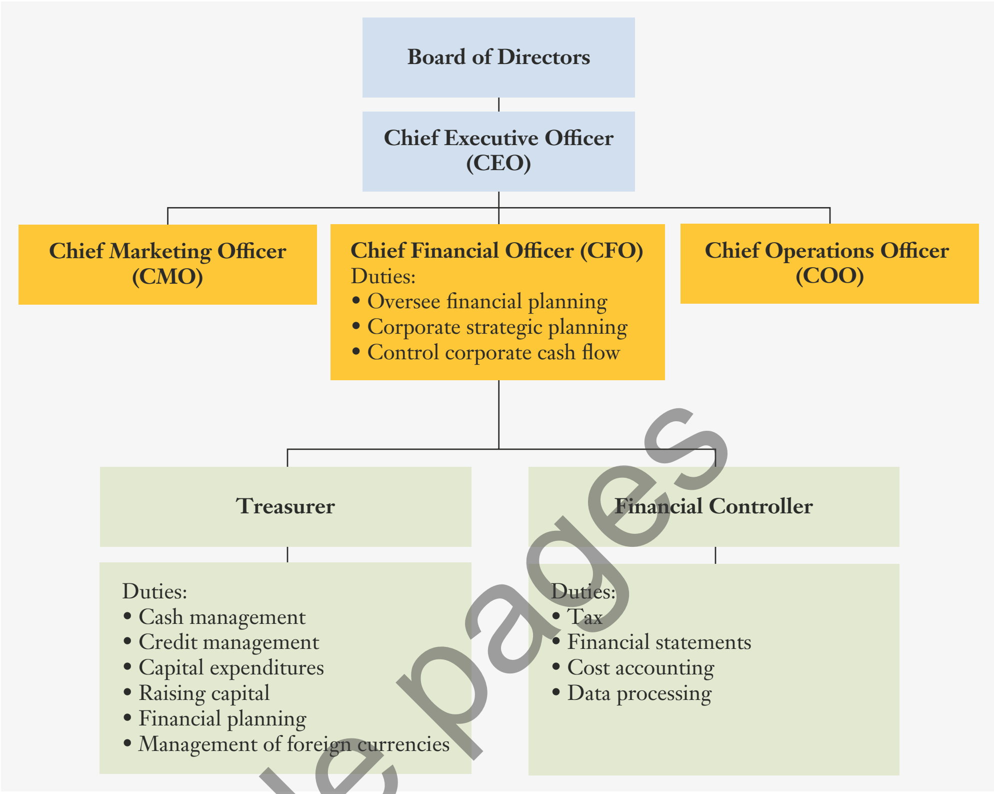
How does finance fit into a firm's organisational structure?

Finance is intimately woven into any aspect of a business that involves the payment or receipt of money in the future. For this reason, it is important that everyone in the business has a good working knowledge of the basic principles of finance. However, within a large business organisation the responsibility for managing the firm's financial affairs falls to the firm's Chief Financial Officer (CFO).

Figure 1.1 (overleaf) shows how the finance function fits into a firm's organisational chart. In the typical large corporation, the CFO serves under the corporation's Chief Executive Officer (CEO) and is responsible for overseeing the firm's finance-related activities. Typically, both a Treasurer and a Financial Controller serve under the CFO, although in a small firm the same person may fulfil both roles. The Treasurer generally handles the firm's financing activities. These include managing its cash and credit, exercising control over the firm's major spending

Figure 1.1 How the finance area fits into a corporation

A firm's Chief Financial Officer (CFO) oversees all of the firm's financial activities through the offices of the firm's Treasurer and Financial Controller.



decisions, raising money, developing financial plans and managing any foreign currency the firm receives. The firm's Financial Controller is responsible for managing the firm's accounting duties, which include producing financial statements, paying tax and gathering and monitoring data that the firm's executives need to oversee its financial well-being.

Before you move on to 1.3

Concept check 1.2

3 What are the primary differences between a sole proprietorship, a partnership and a corporation?

4 Explain why large and growing firms tend to choose the corporate form of organisation.

5 What are the duties of a corporate Treasurer?

6 What are the duties of a Financial Controller?

OBJECTIVE 3

Understand the role of the financial manager within the firm and the goal for making financial choices.

1.3 The goal of the financial manager

In 2001, Tony Fadell turned to Apple, Inc. to develop his idea for a new MP3 player. Fadell's idea had already been rejected by his previous employer and another company, but the executives at Apple were enthusiastic about the new MP3 player idea. They hired Fadell, and the rest is history. The successful sales of the new iPod MP3 player, coupled with efficient uses of financing and day-to-day funding, raised the firm's share price, and in 2011 Apple became the most valuable company in the world. This exemplifies how a management team appointed by a corporate board made an important investment decision that had a very positive effect on the firm's total value.

As previously mentioned, we can characterise the financial activities of a firm's management in terms of three important functions within the firm:

1 Making investment decisions (capital budgeting decisions): the decision by Apple to introduce the iPod.
2 Making decisions on how to finance these investments (capital structure decisions): how to finance the development and production of the iPod.
3 Managing funding for the company's day-to-day operations (working capital management): Apple's decision regarding how much inventory to hold.

In carrying out these tasks, the financial managers must be aware that they are ultimately working for the firm's shareholders, who are the owners of the firm, and that the choices they make as financial managers will generally have a direct impact on their shareholders' wealth.

Maximising shareholder wealth

The CEO of a public company, such as Woolworths Ltd [WOW], is selected by a board of directors; the members of the board of directors are elected by the shareholders who purchase shares in the company. The shareholders, ranging from individuals who purchase shares for a retirement fund to large financial institutions, have a vested interest in the company. Because the shareholders are their true owners, companies commonly have a principal goal described as *maximising shareholder wealth*, which is achieved by maximising the share price.

We can get some insight into the goals that companies have by looking at their annual reports or websites. Woolworths lists its 'Strategy and objectives' on its website, where it says that its goal is to 'have Customers put us 1st, across all our brands'.[2] It then lists five priorities:

1 Building a customer and store-led culture and team
2 Generating sustainable sales momentum in Food
3 Evolving our Drinks business to provide even more value and convenience to customers
4 Empowering our portfolio businesses to pursue strategies to deliver shareholder value
5 Becoming a lean retailer through end-to-end process and systems excellence

This list of priorities is then followed by four sentences explaining how the company will set about achieving them, and 'customers' are referred to in each of those sentences.

Notice that in Woolworths' 'Strategy and objectives', customers are mentioned six times and shareholders only once. Shareholder value is number four on their list of priorities, after references to customers, employees, sales and their food and drinks businesses. Does this mean that there is a potential conflict between competing objectives? Does the company sometimes have to choose between maximising return to shareholders and looking after the interests of its customers?

The answer is no: these various objectives are mutually compatible, and clearly this is Woolworths' view. We (the authors) believe in the same goal that Woolworths does—that maximising the wealth of your shareholders and doing the right thing for other stakeholders in the company can go hand in hand. Think of these other goals not as moving *away* from creating wealth for shareholders, but moving *towards* what will truly increase the value of their shares in the long term. As we explain the concepts in this book, we will assume that businesses do not act out of greed to 'get rich quick'. Instead, we assume that they try to maximise the wealth of their shareholders by making decisions that have long-term positive effects. Very simply, managers cannot afford to ignore the fact that shareholders want to see the value of their investments rise—they will sell their shares if it doesn't. This, in turn, will cause the company's share price to fall, jeopardising the managers' jobs if they are seen to have an excessively short-term focus.

Ethical considerations in corporate finance

Although not one of the five principles of finance, ethics is fundamental to the notion of trust and is therefore essential to doing business. The problem is that in order to cooperate, business participants have to rely on one another's willingness to treat them fairly. Although businesses frequently try to describe the rights and obligations of their dealings with others using contracts, it is impossible to write a perfect contract. Consequently, business dealings between people and firms ultimately depend on the willingness of the parties to trust one another.

Ethics, or a lack thereof, is a recurring theme in the news. Finance has recently been home to an almost continuous series of ethical lapses. Financial scandals at companies such as Enron Corporation and WorldCom in the United States, and HIH Insurance and OneTel in Australia; Bernie Madoff's Ponzi scheme, which cost investors billions of dollars; and other discreditable behaviour involving some of Australia's largest financial institutions all show that the business world does not forgive ethical lapses. Not only is acting in an ethical manner morally correct, but it is also a necessary ingredient of long-term business and personal success.

You might ask yourself, 'As long as I'm not breaking society's laws, why should I care about ethics?' The answer to this question lies in consequences. Everyone makes errors of judgment in business, which is to be expected in an uncertain world. But ethical errors are different. Even if they do not result in anyone going to jail, they tend to end careers and thereby terminate future opportunities. Why? Because unethical behaviour destroys trust, and businesses cannot function without a certain degree of trust. Throughout this book, we will point out some of the ethical pitfalls that have tripped managers up.

Regulation aimed at making the goal of the firm work

Because of growing concerns about both agency and ethical issues, many governments around the world have strengthened laws in an attempt to prevent a repeat of the corporate collapses and scandals referred to above. In 2002, the United States Congress passed the *Sarbanes-Oxley Act*, or 'SOX' as it is commonly known. One of the primary inspirations for this new law was Enron Corporation, which failed financially in December 2001. Prior to bankruptcy, Enron's board of directors actually voted on two occasions to temporarily suspend its own 'code of ethics' to permit its CFO to engage in risky financial ventures that benefited the CFO personally while exposing the corporation to substantial risk.

SOX holds corporate advisors who have access to or influence over company decisions (such as a firm's accountants, lawyers, company officers and board of directors) legally accountable for any instances of misconduct. The Act very simply and directly identifies its purpose as being 'to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws, and for other purposes', and mandates that senior executives take individual responsibility for the accuracy and completeness of the firm's financial reports.

Similar protections have been put into effect in Australia. Following the collapse of HIH Insurance and OneTel in Australia in 2001 (and partially based on the recommendations arising from an investigation into the HIH collapse), the Australian government introduced the *Corporate Law Economic Reform Program (Audit Reform and Corporate Disclosure) Act 2004* (generally referred to as CLERP 9). CLERP 9 introduced significant changes to laws affecting corporations, and was designed to promote public confidence in listed companies, their activities and their financial reports. These changes had impacts on financial reporting, auditor independence, disclosure requirements and remuneration reports. For listed companies, CEOs and CFOs must affirm in writing that company financial statements are 'true and fair'. Remuneration reports are now presented to a company's Annual General Meeting (AGM) by the board of directors, providing details regarding remuneration to board members and managers of the firm. If there is a 25% vote against the remuneration report at two consecutive AGMs, shareholders have the right to vote on a motion to declare all positions on the board vacant (also known as a 'spill'), and if this motion is carried then board members must seek re-election to the board.

There has been some debate about the costs and benefits of such legislation. While many are of the view that it has led to increased investor confidence in financial reporting, the additional reporting requirements are quite costly and, as a result, may inhibit firms from listing on the stock exchange.

FINANCE SPOTLIGHT

YOUR MONEY

Ethical considerations arising from Bond issues


Source: Bettmann/CORBIS

Few Australians have risen as high, and fallen so far, as Alan Bond. Best known (at least for a time) as the person who bankrolled Australia's historic yachting victory in the America's Cup in 1983, Bond was awarded the Order of Australia in 1984 and voted Australian of the Year in 1987. He also founded Bond University, Australia's first private university. The son of poor immigrants, Bond built a multi-billion dollar fortune and headed a vast network of businesses. By the late 1980s, it seemed that everything Alan Bond touched turned to gold.

The stock-market crash of 1987 sowed the seeds of the demise of Bond's business empire (along with those of a number of other high-flying entrepreneurs from the 1980s). Business empires based on high-priced—and debt-funded—acquisitions, as was Bond's, were particularly vulnerable when those assets suddenly lost much of their value. Ethics is rarely an issue when everything is going well; it is when times are tough that some people find themselves contemplating courses of action that others might find questionable, unethical or fraudulent.

As a result of the mountain of debt faced by Bond and his companies, he resorted to more and more questionable actions to 'keep the ship afloat', as it were. Much of this activity involved loans from some companies to others within the Bond empire, with inadequate security and on terms that were not in the interests of the lending company (of which Bond was a director), and often via an intermediary to hide the loans from auditors. The Bond group involved over 100 companies with extremely complex and intertwined financial relationships, making it almost impossible for any one group of auditors to see the 'whole picture'—a technique also seen in the subsequent Enron Corporation and HIH Insurance collapses. Some of the transactions instigated by Bond may or may not have been legal, but because they were not on terms that would be reasonable in an 'arm's length' transaction it is clear that they violated the ethical requirement for company directors to act in the interests of the company and its shareholders. Bond gave a number of assurances to shareholders and corporate regulators which were subsequently found to be, at best, misleading.

In 1997, Bond was charged with nine offences; he pled guilty to two charges and the remaining charges were then dropped. He was eventually sentenced to seven years' imprisonment, of which he served four. He became one of the few Australians to be stripped of the Order of Australia. Bond remained a controversial figure until his death in 2015, being considered by some to be a national hero and by others to be a national disgrace. His business career should serve as a salient lesson to high-flying business entrepreneurs the world over, in three important respects: (1) business empires based on debt-funded acquisitions during times of rapidly rising asset prices tend to be highly vulnerable when prices start to fall; (2) it is at times of greatest stress, pressure and desperation that many of us are most at risk of immoral, unethical or even criminal behaviour; and (3) as soon as one feels compelled to hide the truth about a business transaction from colleagues, shareholders and regulators, that should serve as a warning that even tougher times lie ahead.[3]

Before you move on to 1.4

Concept check 1.3

7 What is the goal of a firm?

8 Why is ethics relevant to the financial management of a firm?

OBJECTIVE 4

Explain the five principles of finance that form the basis of financial management for both businesses and individuals.

1.4 The five basic principles of finance

At first glance, finance can seem like a collection of unrelated decision rules. Nothing could be further from the truth. The logic behind the financial concepts covered in this book arises from five simple financial principles, each of which is described below.

Principle 1: Money has a time value

A dollar received today is worth more than a dollar received in the future. Conversely, a dollar received in the future is worth less than a dollar received today.

Perhaps the most fundamental principle of finance is that money has a time value. A dollar received today is more valuable than a dollar received one year from now. That is, we can invest the dollar we have today to earn interest so that at the end of one year we will have more than one dollar.

Because we can earn interest on money received today, it is better to receive money sooner rather than later. For example, suppose you have a choice of receiving $1000 either today or one year from now. If you decide to receive it a year from now, you will have passed up the opportunity to earn a year's interest on the money. Economists would say that you suffered an 'opportunity loss' or an **opportunity cost**.

Principle 2: There is a risk–return trade-off

We will not take on additional risk unless we expect to be compensated with additional return.

Principle 2 is based on the idea that individuals are risk-averse, which means that they prefer to get a certain return on their investment rather than an uncertain return. However, the world is an inherently risky place, so at least some individuals will have to make investments that are risky. How are investors induced to hold these risky investments when there are safer alternative investments? By offering investors a higher *expected* rate of return on the riskier investments.

Notice that we refer to *expected* return rather than *actual* return. As investors, we have expectations about what returns our investments will earn; however, a higher expected rate of return is not always a higher realised rate of return. For example, companies in the materials sector,[a] which is dominated by mining companies, are generally seen to be high-risk investments, and you probably would not have been willing to invest in this sector at the beginning of 2016 unless you expected returns to be very high. As it happens, the top seven shares on the Australian Securities Exchange [ASX] in 2016 were in that sector. Those seven shares all increased in price by more than 100%; the best performer—Resolute Mining Limited [RSG]—went up 420%! However, the healthcare sector—also a high-risk sector with high expected returns—does not always achieve those expected returns. The two worst performers on the ASX in 2016 were healthcare companies, falling in price by 53% and 65%, respectively. There can be huge variations in actual returns from year to year. Vitamin manufacturer Blackmores Limited [BKL] went from being the best performer in 2015, gaining 519%, to the third-worst in 2016, falling by 53%.

The risk–return relationship will be a key concept as we value assets and propose new investment projects throughout this book. We will also describe how investors measure risk. Interestingly, much of the work for which the 1990 Nobel Prize for economics was awarded centred on the graph shown in Figure 1.2 and how to measure risk.

Principle 3: Cash flows are the source of value

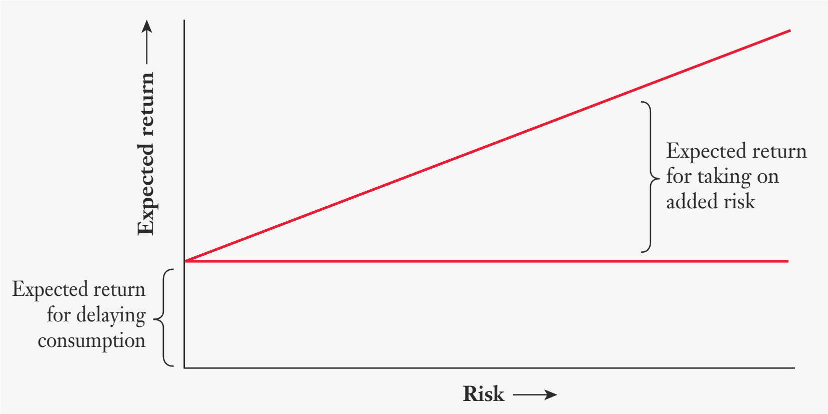
Profit is an accounting concept designed to measure a business's performance over an interval of time. Cash flow is the amount of cash that can actually be taken out of the business, and is therefore a source of value.

You may recall from your accounting studies that a company's profits can differ dramatically from its cash flows. Cash flows represent actual money that can be spent and, as we will discuss later, are what determine an investment's value.

[a]Companies listed on the Australian Securities Exchange (ASX) are broken down into various sectors and industries based on the Global Industry Classification Standard (GICS), and the sector that contains mining companies is called the materials sector.

Figure 1.2 There is a risk–return trade-off

Investors demand a return for delaying their consumption. To convince them to take on added risk, they demand a higher expected return.



Profits are different. To determine a company's accounting profit, its accountants have to make a judgment about how the business's costs and revenues are allocated to each time period. Consequently, different judgments result in different profit measurements. In fact, a firm can show a profit on paper even when it is generating no cash at all. This is not to say that accounting profits are unimportant to investors. Investors see accounting profits as an important indicator of a firm's past—and perhaps its future—ability to produce cash flows for its investors. So, to the extent that profits affect investors' expectations, they are an important source of information.

There is another important point we need to make about cash flows. Recall from your economics studies that people make the best choices when they look at marginal, or *incremental*, cash flows. That is why, in this book, we focus on the incremental cash flow to the company as a whole that is produced as a consequence of a decision. The incremental cash flow to the company as a whole is the difference between the cash flows the company would produce with the potential new investment it is thinking about making, and the cash flows it would produce without that investment. To understand this concept, let's think about the incremental cash flow produced by *Star Wars: The Force Awakens*. Not only did Disney make a lot of money on this movie, but also, once Disney finishes 'Star Wars Land', the movie will increase the number of people attracted to Disney theme parks, along with resulting increases in sales of all kinds of Star Wars items. Thus, if you were to evaluate *Star Wars: The Force Awakens*, you'd want to include its impact on theme park attendances and sales of Star Wars T-shirts, light-sabres, action figures and all Star-Wars-related items throughout the entire company.

Principle 4: Market prices reflect information

Investors respond to new information by buying and selling; therefore, prices reflect what is known. The speed with which investors act and the way that prices respond reflect the efficiency of the market.

The prices of financial claims traded in the public financial markets respond rapidly to the release of new information. Thus, when earnings reports come out, prices adjust immediately to the new information, moving upward if the information is better than expected and downward if it is worse than expected. In efficient markets, such as those that exist in Australia and other developed countries, this process takes place *very* quickly. As a result, it is hard to profit from trading on publicly released information.

To illustrate how quickly share prices can react to information, consider the following set of events: while Nike CEO William Perez was flying aboard the company's Gulfstream jet one day in November 2005, traders on the ground sold off a significant amount of Nike's shares. Why?

Because the aircraft's landing gear was malfunctioning, and the traders were watching television coverage of the event! While Perez was still in the air, Nike's shares dropped 1.4%. Once Perez's aircraft landed safely, Nike's share price immediately bounced back. This example illustrates that in the financial markets there are ever-vigilant investors who are looking to act even *in anticipation of* the release of new information.

Consequently, managers can expect their company's share prices to respond quickly to the decisions they make. Good decisions will result in higher share prices. Poor decisions will result in lower share prices.

Principle 5: Individuals respond to incentives

Incentives motivate, and the actions of managers are often motivated by self-interest, which may result in managers not acting in the interests of the firm's owners. When this happens, the firm's owners will lose value.

For example, a manager may be in a position to evaluate an acquisition that happens to be owned by his brother-in-law. Other situations are much less straightforward. For example, a financial manager may be asked to decide whether or not to close a money-losing plant—a decision that, although saving money for the firm, will involve the personally painful act of firing the employees who will lose their jobs.

The conflict of interest between a firm's managers and its shareholders is called a *principal–agent problem*, or **agency problem**, in which the firm's ordinary shareholders, the owners of the firm, are the principals in the relationship and the managers act as 'agents' to these owners. If the managers have little or no ownership in the firm, they have less incentive to work energetically for the company's shareholders and may instead choose to enrich themselves with perks and other financial benefits—say, luxury corporate jets, expensive corporate apartments or resort holidays. They will also have an incentive to recommend to shareholders that they vote against a proposed merger or takeover, for fear of losing their jobs, even though such a merger or takeover may be in the interests of the shareholders. The lost shareholder value that results from managerial actions that are inconsistent with the goal of maximising shareholder value is called an **agency cost**.

Agency problems also arise when the firm's executives are considering how to raise money to finance the firm's investments. In some situations debt may be the cheapest source of financing, but managers may avoid debt financing because they fear the loss of their jobs if the firm is unable to pay its bills. Shareholders, on the other hand, might prefer that the firm use more debt financing because it puts pressure on management to perform at a high level.

Agency costs are typically difficult to measure, but occasionally their effect on the firm's share price can be seen. For example, upon the announcement of the death of Roy Farmer, the CEO of Farmer Brothers [US:FARM], a seller of coffee-related products, the firm's share price rose about 28%. Many attributed the rise in price to the perceived benefits of the loss of a CEO who was not acting in accordance with general shareholder interests.

Fortunately, there are several measures that can be taken to help mitigate the agency problem:

- Compensation plans that reward managers when they act to maximise shareholder wealth can be put in place.
- The board of directors can actively monitor the actions of managers and keep pressure on them to act in the best interests of shareholders.
- The financial markets can (and do) play a role in monitoring management by having auditors, bankers and credit agencies monitor the firm's performance, while security analysts provide and disseminate analysis on how well the firm is doing, thereby helping shareholders monitor the firm.
- Firms that underperform will see their share prices fall and may be taken over and have their management teams replaced.

To see the power of incentives, consider the case of NFL football player Edgerrin James. James was a running back for the Indianapolis Colts playing in a game against Detroit when he was told by his coach to get a first down and then fall down and run the clock out. That way, the Colts would not be accused of running up the score against a team they were already beating badly. However, because James's contract included incentive payments associated with rushing yards and touchdowns, he acted in his own self-interest and ran for a touchdown on the very next play. Following the play, he commented, 'I heard a cash register ringing the whole damn way'.[4]

Before you begin end-of-chapter material

Concept check 1.4

9 What are the five principles of finance?

10 A fundamental guiding principle of investing is that higher risks require higher rewards or returns. Give two examples of the risk–return relationship.

11 What do we mean when we say that market prices reflect information?

CHAPTER SUMMARY

CHAPTER 1

Applying the principles of finance to Chapter 1

P1 **Money has a time value** A dollar received today is worth more than a dollar received in the future. Conversely, a dollar received in the future is worth less than a dollar received today.

P2 **There is a risk–return trade-off** We will not take on additional risk unless we expect to be compensated with additional return.

P3 **Cash flows are the source of value** Profit is an accounting concept designed to measure a business's performance over an interval of time. Cash flow is the amount of cash that can actually be taken out of a business, and is therefore the source of value.

P4 **Market prices reflect information** Investors respond to new information by buying and selling; therefore, prices reflect what is known. The speed with which investors act and the way that prices respond reflect the efficiency of the market.

P5 **Individuals respond to incentives** Incentives motivate, and the actions of managers are often motivated by self-interest, which may result in managers not acting in the interests of the firm's owners. When this happens, the firm's owners will lose value.

1.1 Understand the importance of finance in your personal and professional lives and identify the three primary business decisions that financial managers make. (pages 3–5)

SUMMARY Finance is the study of how individuals and businesses allocate money over time. We all face choices that involve spending or receiving money now versus sometime in the future. What you will learn in this book will help you to better understand how to make those choices, both in your personal life and as a financial manager.

The decision-making process of planning and managing a firm's long-term investments is called capital budgeting. The mix of long-term sources of funds used by a firm to finance its operations is called its capital structure. Working capital management involves managing the firm's short-term investment in assets and liabilities and ensuring that the firm has sufficient resources to maintain its day-to-day business operations.

KEY TERMS

capital budgeting, page 4 The decision-making process used to analyse potential investments in fixed assets.

capital structure, page 4 The mix of debt and equity securities a firm uses to finance its assets.

financial markets, page 4 Mechanisms that allow people to easily buy and sell financial claims.

working capital management, page 4 Management of day-to-day operations and decisions related to working capital and short-term financing.

Concept check 1.1

1 What are the three basic types of issue that arise in business that are addressed by the study of business finance?

2 List three non-finance careers to which the study of finance applies.

1.2 Identify the key differences between the three major legal forms of business. (pages 5–8)

SUMMARY The sole proprietorship is a business operation owned and managed by an individual. Initiating this form of business is simple and generally does not involve any substantial organisational costs. The proprietor has complete control of the firm but must be willing to assume full responsibility for its outcomes.

Similar to the sole proprietorship, a general partnership is simply a coming together of two or more individuals who face unlimited liability for their involvement in the partnership. The limited partnership is another form of partnership that permits all but one of the partners to have limited liability if this is agreeable to all partners. The one partner with unlimited liability is the general partner.

The corporation form of organisation is taken when a business has an increased need to raise capital from public investors. Although greater organisational costs and regulations are imposed on this legal entity, the corporation is more conducive to raising large amounts of capital. Limited liability, continuity of life and ease of transfer in ownership, all of which increase the marketability of the investment, have greatly contributed to attracting large numbers of investors to the corporate environment. The formal control of the corporation is vested in the parties who own the greatest number of shares. However, day-to-day operations are managed by the corporate officers, who theoretically serve on behalf of the shareholders. An attractive alternative to a public company for a small business is the private company (denoted by 'Pty' after the company name). A private company generally provides for greater control by the owners while still providing the limited liability benefit of corporations (the owners' liability is limited to what they invest).

KEY TERMS

corporation, page 6 A business entity that legally functions separate and apart from its owners.

debt, page 5 Money that has been borrowed and must be repaid. This includes such things as bank loans and bonds.

dividends, page 7 The portion of a corporation's earnings that are distributed to its shareholders.

equity, page 5 The ownership interest in a corporation. It is the shareholders' investment in the firm and the cumulative profits retained in the business up to the date of the balance sheet.

general partner, page 5 A member of a general partnership or a member of a limited partnership who actually runs the business and faces unlimited liability for the firm's debts.

general partnership, page 5 A partnership in which all of the partners are fully liable for the indebtedness incurred by the partnership.

limited partner, page 5 A member of a limited partnership who is liable only up to the amount invested by that member.

limited partnership, page 5 A partnership in which one or more of the partners has limited liability that is restricted to the amount of capital he or she invests in the partnership.

partnership, page 5 An association of two or more individuals joining together as co-owners to operate a business for profit.

private company, page 7 A business organisational form that blends greater control by owners with many of the elements of the corporate form.

shareholders, page 6 The owners of the firm; those who own shares in a corporation.

shares, page 5 Units of ownership.

sole proprietorship, page 5 A business owned by a single individual.

Concept check 1.2

3 What are the primary differences between a sole proprietorship, a partnership and a corporation?

4 Explain why large and growing firms tend to choose the corporate form of organisation.

5 What are the duties of a corporate Treasurer?

6 What are the duties of a Financial Controller?

1.3 Understand the role of the financial manager within the firm and the goal for making financial choices. (pages 8–11)

SUMMARY The finance function in most large firms is headed by a Chief Financial Officer (CFO). The CFO typically reports directly to the firm's Chief Executive Officer (CEO). The CFO oversees the firm's financing decisions, including the management of the firm's cash position (in larger firms, this responsibility is delegated to the company Treasurer, who reports to the CFO) as well as corporate reporting and general accounting. (Once again, in large firms this task is delegated to the Financial Controller, who also reports to the CFO.)

A critically important goal of finance is to design incentive compensation plans that better align the interests of managers with those of the firm's owners (shareholders).

Firms are in business to make their owners, or shareholders, wealthier. With this goal in mind, financial managers must make financial decisions regarding long-term investments, financing and management of short-term cash needs. For very large firms whose shares are publicly traded, this goal is commonly described as *maximising the wealth of shareholders* (the business's owners).

In finance, ethics—or a lack thereof—is a recurring theme in the news. Ethics is fundamental to the notion of trust and is therefore essential to doing business. In order to cooperate, business participants have to rely on one another's willingness to treat them fairly.

Concept check 1.3

7 What is the goal of a firm?

8 Why is ethics relevant to the financial management of a firm?

1.4 Explain the five principles of finance that form the basis of financial management for both businesses and individuals. (pages 12–15)

SUMMARY

P1 Principle 1: **Money has a time value**

A dollar received today is worth more than a dollar received in the future. Conversely, a dollar received in the future is worth less than a dollar received today.

P2 Principle 2: **There is a risk–return trade-off**

We will not take on additional risk unless we expect to be compensated with additional return.

P3 Principle 3: **Cash flows are the source of value**

Profit is an accounting concept designed to measure a business's performance over an interval of time. Cash flow is the amount of cash that can actually be taken out of the business, and is therefore the source of value.

P4 Principle 4: **Market prices reflect information**

Investors respond to new information by buying and selling; therefore, prices reflect what is known. The speed with which investors act and the way that prices respond reflect the efficiency of the market.

P5 Principle 5: **Individuals respond to incentives**

Incentives motivate, and the actions of managers are often motivated by self-interest, which may result in managers not acting in the best interests of the firm's owners. When this happens, the firm's owners will lose value.

KEY TERMS

agency costs, page 14 The costs incurred by a firm's ordinary shareholders when the firm's management makes decisions that are not in the shareholders' best interests but instead further the interests of the management of the firm.

agency problem, page 14 Conflicts that arise out of the separation of management and ownership of the firm.

opportunity cost, page 12 The value of the next best alternative that is foregone as a result of making a decision.

Concept check 1.4

9 What are the five principles of finance?

10 A fundamental guiding principle of investing is that higher risks require higher rewards or returns. Give two examples of the risk–return relationship.

11 What do we mean when we say that market prices reflect information?

STUDY QUESTIONS

1–1 **(Related to *Finance Spotlight* 'Welcome to the world of finance' on page 3)** In the Finance Spotlight boxed feature at the beginning of this chapter, we discussed how the topic of principle 1, the time value of money, is relevant to both your personal and professional lives. Describe a decision you might face in the future that will require you to consider the future value of money received (or invested). For example, how might the time value of money enter into a decision to push back your graduation date by one year?

1–2 Explain the three types of business decision that a financial manager faces.

1–3 According to principle 2, how should investors decide where to invest their money?

1–4 In very basic terms, describe how profits and cash flow are different.

1–5 List the three main forms of business organisation and describe their advantages and disadvantages. If you were to consider starting up a lawn-care business for the summer, what type of business organisation might you use?

1–6 Who really owns a corporation, and how does that impact on the goal of the firm?

1–7 What goal do the owners of a for-profit business generally strive for?

1–8 Why is maximising a firm's accounting profits not an appropriate goal for the firm?

ENDNOTES

1 *The Trustees of Dartmouth College v. Woodward,* 4 Wheaton 636 (1819).

2 Woolworths Limited, Strategy and objectives, <www.woolworthsgroup.com.au/page/about-us/our-approach/strategy-and-objectives/>.

3 K. Van Peursem, M. Zhou, T. Flood and J. Buttimore, 'Three cases of corporate fraud: An audit perspective', The University of Waikato, <http://researchcommons.waikato.ac.nz/bitstream/handle/10289/1671/Accounting_wp_94.pdf?sequence=1>; T. Paddenburg, 'Alan Bond is no hero, say victims', *PerthNow*, <www.news.com.au/national/western-australia/alan-bond-is-no-hero-say-victims/news-story/6b3f860896c379d6e6fa865b2e3279cb>.

4 'Edgerrin James plays by his own rules. And he has no problem'. ESPN website, <www.espn.com/espn/magazine/archives/news/story?page=magazine-20020902-article10>.