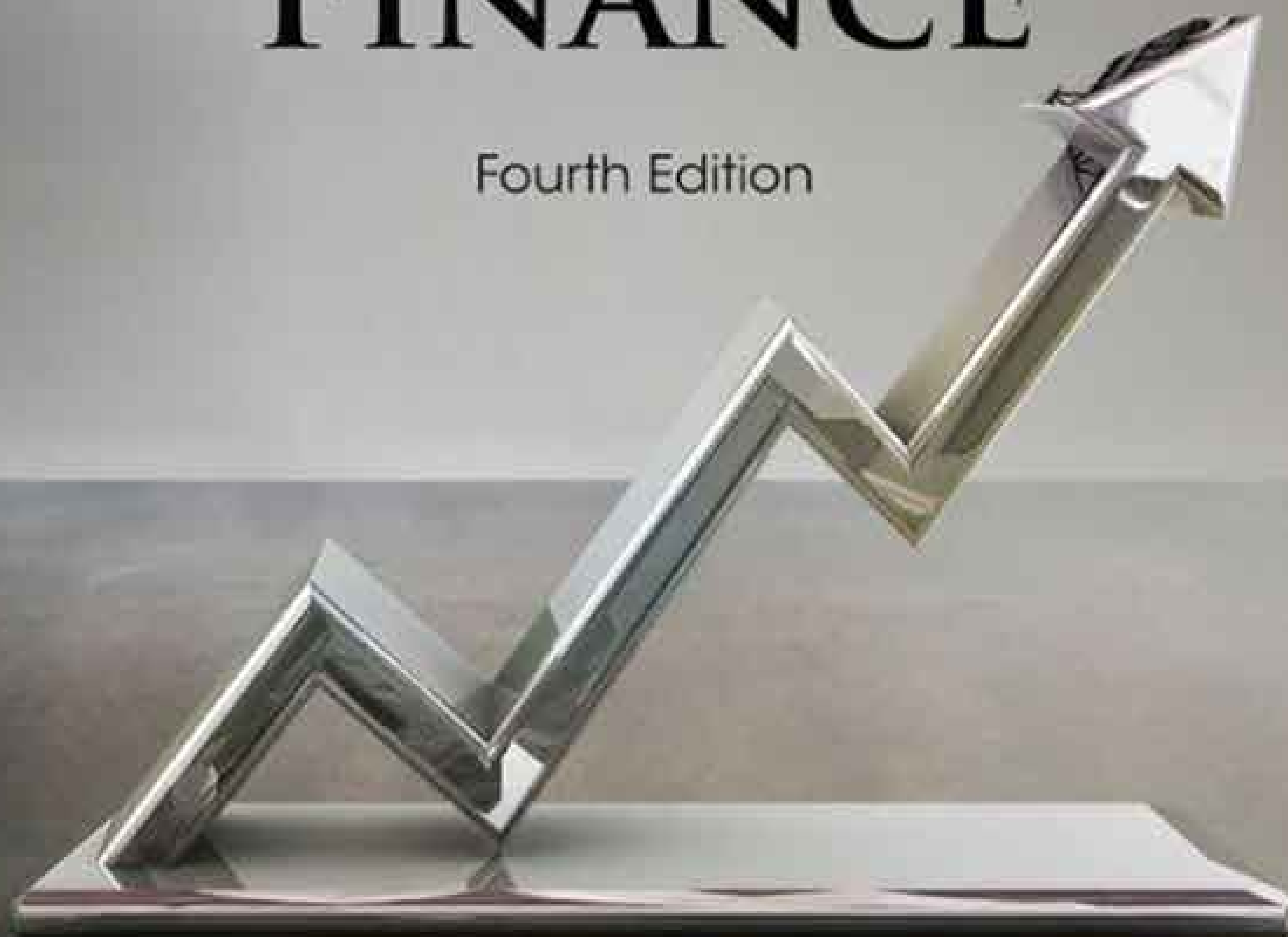
ASWATH DAMODARAN

APPLIED CORPORATE FINANCE

Fourth Edition



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Dedication

To Michele, who keeps me sane,
and to my children, Ryan, Brendan, Kendra,
and Kiran, for grounding me in reality.

About the Author

Aswath Damodaran is the Kerschner Family Professor of Finance at the Stern School of Business at New York University and teaches the corporate finance and equity valuation courses in the MBA program. He received his MBA and PhD from the University of California at Los Angeles. His research interests lie in valuation, portfolio management, and applied corporate finance. He has published in the *Journal of Financial and Quantitative Analysis*, the *Journal of Finance*, the *Journal of Financial Economics*, and the *Review of Financial Studies*.

He has written four books on equity valuation (Damodaran on Valuation, Investment Valuation, The Dark Side of Valuation, The Little Book of Valuation) and two on corporate finance (Corporate Finance: Theory and Practice, Applied Corporate Finance: A User's Manual) and has coedited a book on investment management with Peter Bernstein (Investment Management) and a book on investment philosophies (Investment Philosophies). His book Investment Fables was released in 2004, and his book on risk management and measurement, Strategic Risk Taking, was published in 2006.

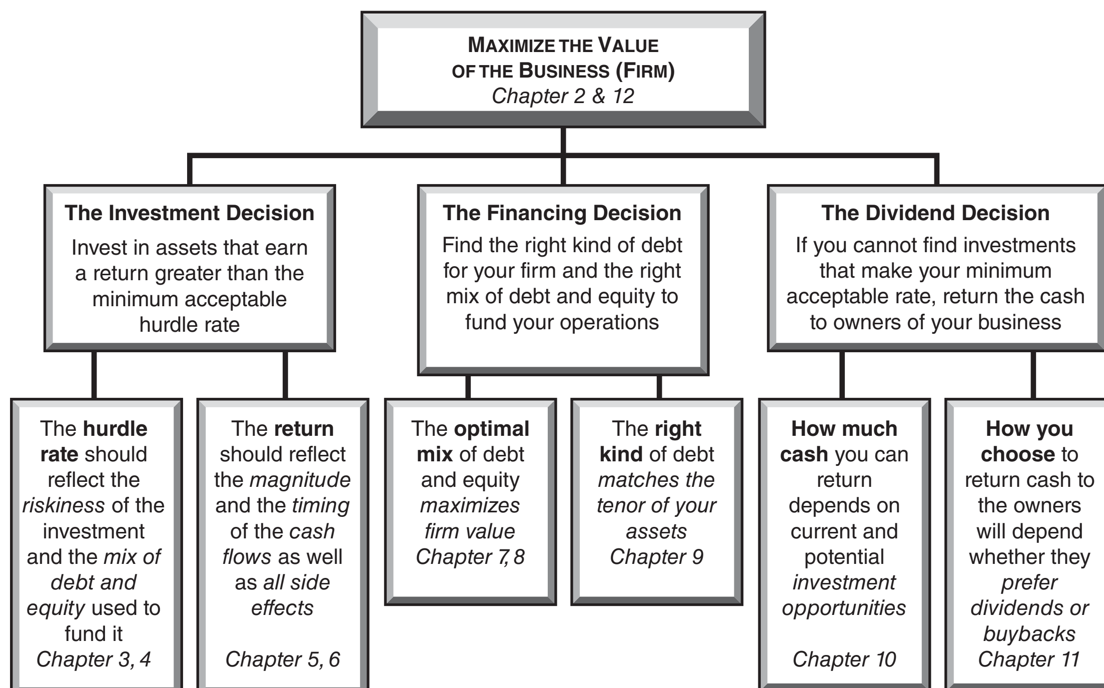
He was a visiting lecturer at the University of California, Berkeley, from 1984 to 1986, where he received the Earl Cheit Outstanding Teaching Award in 1985. He has been at NYU since 1986, received the Stern School of Business Excellence in Teaching Award (awarded by the graduating class) in 1988, 1991, 1992, 1999, 2001, 2006, 2007, 2008 and 2013, and was the youngest winner of the University-wide Distinguished Teaching Award (in 1990). He was profiled in Business Week as one of the top 12 business school professors in the United States in 1994.

PREFACE

Let me begin this preface with a confession of a few of my own biases. First, I believe that theory and the models that flow from it should provide the tools to understand, analyze, and solve problems. The test of a model or theory then should not be based on its elegance but on its usefulness in problem solving. Second, there is little in corporate financial theory that is new and revolutionary. The core principles of corporate finance are common sense and have changed little over time. That should not be surprising. Corporate finance is only a few decades old, and people have been running businesses for thousands of years; it would be exceedingly presumptuous of us to believe that they were in the dark until corporate finance theorists came along and told them what to do. To be fair, it is true that corporate financial theory has made advances in taking common sense principles and providing structure, but these advances have been primarily on the details. The story line in corporate finance has remained remarkably consistent over time.

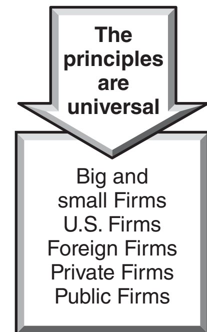
Talking about story lines allows me to set the first theme of this book. This book tells a story, which essentially summarizes the corporate finance view of the world. It classifies all decisions made by any business into three groups—decisions on where to invest the resources or funds that the business has raised, either internally or externally (the investment decision), decisions on where and how to raise funds to finance these investments (the financing decision), and decisions on how much and in what form to return funds back to the owners (the dividend decision). As I see it, the first principles of corporate finance can be summarized in Figure 1, which also lays out a site map for the book. Every section of this book relates to some part of this picture, and each chapter is introduced with it, with

Figure 1 Corporate Finance: First Principles



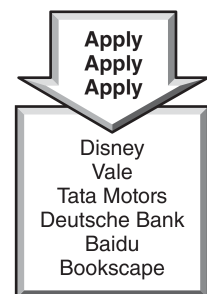
emphasis on that portion that will be analyzed in that chapter. (Note the chapter numbers below each section). Put another way, there are no sections of this book that are not traceable to this framework.

As you look at the chapter outline for the book, you are probably wondering where the chapters on present value, option pricing, and bond pricing are, as well as the chapters on short-term financial management, working capital, and international finance. The first set of chapters, which I would classify as "tools" chapters, are now contained in the appendices, and I relegated them there not because I think that they are unimportant but because I want the focus to stay on the story line. It is important that we understand the concept of time value of money, but only in the context of measuring returns on investments better and valuing business. Option pricing theory is elegant and provides impressive insights, but only in the context of looking at options embedded in projects and financing instruments like convertible bonds.



The second set of chapters I excluded for a very different reason. As I see it, the basic principles of whether and how much you should invest in inventory, or how generous your credit terms should be, are no different than the basic principles that would apply if you were building a plant or buying equipment or opening a new store. Put another way, there is no logical basis for the differentiation between investments in the latter (which in most corporate finance books is covered in the capital budgeting chapters) and the former (which are considered in the working capital chapters). You should invest in either if and only if the returns from the investment exceed the hurdle rate from the investment; the fact the one is short-term and the other is long-term is irrelevant. The same thing can be said about international finance. Should the investment or financing principles be different just because a company is considering an investment in Thailand and the cash flows are in Thai baht instead of in the United States, where the cash flows are in dollars? I do not believe so, and in my view separating the decisions only leaves readers with that impression. Finally, most corporate finance books that have chapters on small firm management and private firm management use them to illustrate the differences between these firms and the more conventional large publicly traded firms used in the other chapters. Although such differences exist, the commonalities between different types of firms vastly overwhelm the differences, providing a testimonial to the internal consistency of corporate finance. In summary, the second theme of this book is the emphasis on the *universality of corporate financial principles* across different firms, in different markets, and across different types of decisions.

The way I have tried to bring this universality to life is by using six firms through the book to illustrate each concept; they include a large, publicly traded U.S. corporation (Disney); a large, emerging market commodity company (Vale, a Brazilian metals and mining company); an Indian manufacturing company that is part of a family group (Tata Motors); a financial service firm (Deutsche Bank); a Chinese technology company (Baidu) and a small private business (Bookscape, an independent New York City bookstore). Although the notion of using real companies to illustrate theory is neither novel nor revolutionary, there are, two key differences in the way they are used in this book. First, these companies are analyzed on every aspect of corporate finance introduced here, rather than just selectively in some chapters. Consequently, readers can see for themselves the similarities and the differences in the way investment, financing, and dividend principles are applied to very different firms. Second, I do not consider this to be a book where applications are used to illustrate theory but a book where the theory is presented as a companion to the illustrations. In fact, reverting back to my earlier analogy of theory providing the tools for understanding problems, this is a book where the problem solving takes center stage and the tools stay in the background.



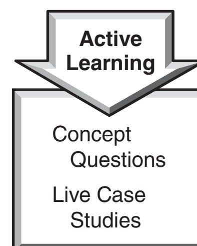
Reading through the theory and the applications can be instructive and even interesting, but there is no substitute for actually trying things out to bring home both the strengths and weaknesses of corporate finance. There are several ways I have made this book a tool for active learning. One is to

introduce *concept questions* at regular intervals that invite responses from the reader. As an example, consider the following illustration from Chapter 7:

7.1 THE EFFECTS OF DIVERSIFICATION ON VENTURE CAPITALIST

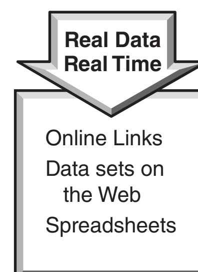
You are comparing the required returns of two venture capitalists who are interested in investing in the same software firm. One has all of his capital invested in only software firms, whereas the other has invested her capital in small companies in a variety of businesses. Which of these two will have the higher required rate of return?

- ☐ **The venture capitalist who is invested only in software companies.**
- ☐ **The venture capitalist who is invested in a variety of businesses.**
- ☐ **Cannot answer without more information.**



This question is designed to check on a concept introduced in an earlier chapter on risk and return on the difference between risk that can be eliminated by holding a diversified portfolio and risk that cannot and then connecting it to the question of how a business seeking funds from a venture capitalist might be affected by this perception of risk. The answer to this question in turn will expose the reader to more questions about whether venture capital in the future will be provided by diversified funds and what a specialized venture capitalist (who invests in one sector alone) might need to do to survive in such an environment. This will allow readers to see what, for me at least, is one of the most exciting aspects of corporate finance—its capacity to provide a framework that can be used to make sense of the events that occur around us every day and make reasonable forecasts about future directions.

The second active experience in this book is found in the Live Case Studies at the end of each chapter. These case studies essentially take the concepts introduced in the chapter and provide a framework for applying them to any company the reader chooses. Guidelines on where to get the information to answer the questions are also provided as are links to in-practice webcasts, leading you through the mechanics of applying corporate financial tools.



Although corporate finance provides an internally consistent and straightforward template for the analysis of any firm, information is clearly the lubricant that allows us to do the analysis. There are three steps in the information process—acquiring the information, filtering what is useful from what is not, and keeping the information updated. Accepting the limitations of the printed page on all of these aspects, I have put the power of online information to use in several ways.

1. The case studies that require the information are accompanied by links to Web sites that carry this information.
2. The data sets that are difficult to get from the Internet or are specific to this book, such as the updated versions of the tables, are available on my own Web site (www.damodaran.com) and are integrated into the book. As an example, the table that contains the dividend yields and payout ratios by industry sectors for the most recent quarter is referenced in Chapter 9 as follows:

divfund.xls: There is a data set online that summarizes dividend yields and payout ratios for U.S. companies, categorized by sector.

You can get to this table by going to the Web site for the book and checking for data sets in Chapter 9.

3. The spreadsheets used to analyze the firms in the book are also available on my Web site and are referenced in the book. For instance, the spreadsheet used to estimate the optimal debt ratio for Disney in Chapter 8 is referenced as follows:

Capstru.xls : This spreadsheet allows you to compute the optimal debt ratio firm value for any firm, using the same information used for Disney. It has updated interest coverage ratios and spreads built in.

As with the dataset listing above, you can get this spreadsheet by going to the website for the book and checking in spreadsheets in chapter 8.

For those of you have read the first two editions of this book, much of what I have said in this preface should be familiar. But there are two places where you will find this book to be different:

a. For better or worse, the banking and market crisis of 2008 has left lasting wounds on our psyches as investors and shaken some of our core beliefs in how to estimate key numbers and approach fundamental tradeoffs. I have tried to adapt some of what I have learned about equity risk premiums and the distress costs of debt into the discussion.

b. I have always been skeptical about behavioral finance but I think that the area has some very interesting insights on how managers behave that we ignore at our own peril. I have made my first foray into incorporating some of the work in behavioral financing into investing, financing and dividend decisions.

For those who have read the third edition, the changes are smaller but you will notice a more global perspective for all companies, no matter where they are incorporated and traded.

As I set out to write this book, I had two objectives in mind. One was to write a book that not only reflects the way I teach corporate finance in a classroom but, more important, conveys the fascination and enjoyment I get out of the subject matter. The second was to write a book for practitioners that students would find useful, rather than the other way around. I do not know whether I have fully accomplished either objective, but I do know I had an immense amount of fun trying. I hope you do, too!

Acknowledgments

I would like to acknowledge all of those students who have taken my corporate finance classes, patiently sitting through lectures, helping me fix my errors, providing invaluable suggestions, and helping me refine my message. In addition, I would like to thank all of the reviewers who have provided feedback over the three editions of this text: Sankar Acharya, University of Illinois at Chicago; Steven J. Ahn, University of Georgia; William H. Brent, Howard University; Miranda Lam Detzler, University of Massachusetts, Boston; Kathleen P. Fuller, University of Georgia; Robert T. Kleiman, Michael J. Lee, University of Maryland, Oakland University; James Nelson, Florida State University; Sarah Peck, Marquette University; Paul Pfleiderer, Stanford University; Sunder Raghavan, Embry-Riddle University; Assem Safieddine, Michigan State University; Peruvemba K. Satish, Washington State University; Hany A. Shawky, University at Albany; Paul A. Spindt, Tulane University; William Stahlin, Stevens Institute of Technology; Mark Stohs, California State University, Fullerton; Mahmoud Wahab, University of Hartford; and Jasmine Yur-Austin, California State University, Long Beach.

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CHAPTER 1

THE FOUNDATIONS

It's all corporate finance.

MY UNBIASED VIEW OF THE WORLD

Learning Objectives

1.1. Define *firm, assets, debt*, and *equity*.

1.2. Identify the three fundamental principles that underlie corporate finance.

1.3. Link the maximization of firm value to investment, financing, and dividend decisions.

1.4. Recognize the real-world businesses, visual devices, and fundamental propositions that will be used throughout the text.

Every decision made in a business has financial implications, and any decision that involves the use of money is a corporate financial decision. Defined broadly, everything that a business does fits under the rubric of corporate finance. It is, in fact, unfortunate that we even call the subject corporate finance, because it suggests to many observers a focus on how large corporations make financial decisions and seems to exclude small and private businesses from its purview. A more appropriate title for this book would be *Business Finance*, because the basic principles remain the same, whether one looks at large, publicly traded firms or small, privately run businesses. All businesses have to invest their resources wisely, find the right kind and mix of financing to fund these investments, and return cash to the owners if there are not enough good investments.

In this chapter, we will lay the foundation for the rest of the book by listing the three fundamental principles that underlie corporate finance—the investment, financing, and dividend principles—and the objective of firm value maximization that is at the heart of corporate financial theory.

THE FIRM: STRUCTURAL SETUP

In the chapters that follow, we will use **firm** generically to refer to any business, large or small, manufacturing or service, private or public. Thus, a corner grocery store and Microsoft are both firms.

The firm's investments are generically termed **assets**. Although assets are often categorized in accounting statements into fixed assets, which are long-lived, and current assets, which are short-term, we prefer a different categorization. The investments that a firm has already made are called **assets in place**, whereas investments that the firm is expected to invest in the future are called **growth assets**. Although it may seem strange that a firm can get value from investments it has not made yet, high-growth firms get the bulk of their value from these yet-to-be-made investments.

To finance these assets, the firm can obtain its capital from two sources. It can raise funds from investors or financial institutions by promising investors a fixed claim (interest payments) on the cash

flows generated by the assets, with a limited or no role in the day-to-day running of the business. We categorize this type of financing to be **debt**. Alternatively, it can offer a residual claim on the cash flows (i.e., investors can get what is left over after the interest payments have been made) and a much greater role in the operation of the business. We call this **equity**. Note that these definitions are general enough to cover both private firms, where debt may take the form of bank loans and equity is the owner's own money, as well as publicly traded companies, where the firm may issue bonds (to raise debt) and common stock (to raise equity).

Thus, at this stage, we can lay out the financial balance sheet of a firm as follows:

Assets			**Liabilities**
Existing investments Generate cash flows today Includes long-lived (fixed) and short-lived (working capital) assets	**Assets in Place**	**Debt**	Fixed claim on cash flows Little or no role in management *Fixed maturity* *Tax-deductible*
Expected value that will be created by future investments	**Growth Assets**	**Equity**	Residual claim on cash flows Significant role in management *Perpetual lives*

We will return to this framework repeatedly through this book.

First Principles

Every discipline has first principles that govern and guide everything that gets done within it. All of corporate finance is built on three principles, which we will call, rather unimaginatively, the investment principle, the financing principle, and the dividend principle. The investment principle determines where businesses invest their resources, the financing principle governs the mix of funding used to fund these investments, and the dividend principle answers the question of how much earnings should be reinvested back into the business and how much should be returned to the owners of the business. These core corporate finance principles can be stated as follows:

- ***The Investment Principle***: Invest in assets and projects that *yield a return greater than the minimum acceptable hurdle rate*. The hurdle rate should be *higher for riskier projects* and should reflect the *financing mix* used—owners' funds (equity) or borrowed money (debt). Returns on projects should be measured based on *cash flows* generated and the *timing* of these cash flows; they should also consider both *positive and negative side effects* of these projects.
- ***The Financing Principle***: Choose a *financing mix (debt and equity)* that maximizes the value of the investments made and *match the financing to the nature of the assets* being financed.
- ***The Dividend Principle***: If there are not enough investments that earn the hurdle rate, *return the cash* to the owners of the business. In the case of a publicly traded firm, the *form of the return*—dividends or stock buybacks—will depend on what stockholders prefer.

When making investment, financing, and dividend decisions, corporate finance is single-minded about the ultimate objective, which is assumed to be maximizing the value of the business to its owners. These first principles provide the basis from which we will extract the numerous models and

theories that comprise modern corporate finance, but they are also commonsense principles. It is incredible conceit on our part to assume that until corporate finance was developed as a coherent discipline starting just a few decades ago, people who ran businesses made decisions randomly with no principles to govern their thinking. Good businesspeople through the ages have always recognized the importance of these first principles and adhered to them, albeit in intuitive ways. In fact, one of the ironies of recent times is that many managers at large and presumably sophisticated firms and their consultants and bankers, with access to the latest corporate finance technology, have lost sight of these basic principles.

The Objective of the Firm

No discipline can develop cohesively over time without a unifying objective. The growth of corporate financial theory can be traced to its choice of a single objective and the development of models built around this objective. The objective in conventional corporate financial theory when making decisions is to maximize the value of the business or firm. Consequently, any decision (investment, financial, or dividend) that increases the value of a business is considered good, whereas one that reduces the firm value is considered poor. Although the choice of a singular objective has provided corporate finance with a unifying theme and internal consistency, it comes at a cost. To the degree that one buys into this objective, much of what corporate financial theory posits makes sense. To the degree that this objective is flawed, however, it can be argued that the theory built on it is flawed as well. Many of the disagreements between corporate financial theorists and others (academics as well as practitioners) can be traced to fundamentally different views about the correct objective for a business. For instance, there are some critics of corporate finance who argue that firms should have multiple objectives where a variety of interests (e.g., stockholders, labor, and customers) are met, and there are others who would have firms focus on what they view as simpler and more direct objectives, such as market share or profitability.

Given the significance of this objective for both the development and the applicability of corporate financial theory, it is important that we examine it much more carefully and address some of the very real concerns and criticisms it has garnered: it assumes that what stockholders do in their own self-interest is also in the best interests of the firm, it is sometimes dependent on the existence of efficient markets, and it is often blind to the social costs associated with value maximization. In Chapter 2, we consider these and other issues and compare firm value maximization to alternative objectives.

The Investment Principle

Firms have scarce resources that must be allocated among competing needs. The first and foremost function of corporate financial theory is to provide a framework for firms to make this decision wisely. Accordingly, we define *investment decisions* to include not only those that create revenues and profits (such as introducing a new product line or expanding into a new market) but also those that save money (such as building a new and more efficient distribution system). Furthermore, we argue that decisions about how much and what inventory to maintain and whether and how much credit to grant to customers that are traditionally categorized as working capital decisions are ultimately investment decisions as well. At the other end of the spectrum, broad strategic decisions regarding which markets to enter and the acquisitions of other companies can also be considered investment decisions.

Corporate finance attempts to measure the return on a proposed investment decision and compare it to a minimum acceptable hurdle rate to decide whether the project is acceptable. The hurdle rate has to be set higher for riskier projects and has to reflect the financing mix used, i.e., the owner's funds (equity) or borrowed money (debt). In Chapter 3, we begin this process by defining risk and developing a procedure for measuring risk. In Chapter 4, we go about converting this risk measure into a hurdle rate, i.e., a minimum acceptable rate of return, for both entire businesses and individual investments.

Having established the hurdle rate, we turn our attention to measuring the returns on an investment. In Chapter 5, we evaluate three alternative ways of measuring returns—conventional accounting earnings, cash flows, and time-weighted cash flows (where we consider both how large the cash flows are and when they are anticipated to come in). In Chapter 6, we consider some of the potential side costs that might not be captured in any of these measures, including costs that may be created for existing investments by taking a new investment, and side benefits, such as options to enter new markets and to expand product lines that may be embedded in new investments, and synergies, especially when the new investment is the acquisition of another firm.

The Financing Principle

Every business, no matter how large and complex, is ultimately funded with a mix of borrowed money (debt) and owner's funds (equity). With a publicly trade firm, debt may take the form of bonds and equity is usually common stock. In a private business, debt is more likely to be bank loans and an owner's savings represent equity. Although we consider the existing mix of debt and equity and its implications for the minimum acceptable hurdle rate as part of the investment principle, we throw open the question of whether the existing mix is the right one in the financing principle section. There might be regulatory and other real-world constraints on the financing mix that a business can use, but there is ample room for flexibility within these constraints. We begin this section in Chapter 7, by looking at the range of choices that exist for both private businesses and publicly traded firms between debt and equity. We then turn to the question of whether the existing mix of financing used by a business is optimal, given the objective function of maximizing firm value, in Chapter 8. Although the tradeoff between the benefits and costs of borrowing are established in qualitative terms first, we also look at quantitative approaches to arriving at the optimal mix in this chapter.

When the optimal financing mix is different from the existing one, we map out the best ways of getting from where we are (the current mix) to where we would like to be (the optimal) in Chapter 9, keeping in mind the investment opportunities that the firm has and the need for timely responses, either because the firm is a takeover target or under the threat of bankruptcy. Having outlined the optimal financing mix, we turn our attention to the type of financing a business should use, such as whether it should be long-term or short-term, whether the payments on the financing should be fixed or variable, and if variable, what it should be a function of. Using a basic proposition that a firm will minimize its risk from financing and maximize its capacity to use borrowed funds if it can match up the cash flows on the debt to the cash flows on the assets being financed, we design the right financing instruments for a firm. We then add additional considerations relating to taxes and external monitors (equity research analysts and ratings agencies) and arrive at conclusions about the design of the financing.

The Dividend Principle

Most businesses would undoubtedly like to have unlimited investment opportunities that yield returns exceeding their hurdle rates, but all businesses grow and mature. As a consequence, every business that thrives reaches a stage in its life when the cash flows generated by existing investments is greater than the funds needed to take on good investments. At that point, this business has to figure out ways to return the excess cash to owners. In private businesses, this may just involve the owner withdrawing a portion of his or her funds from the business. In a publicly traded corporation, this will involve either paying dividends or buying back stock. Note that firms that choose not to return cash to owners will accumulate cash balances that grow over time. Thus, analyzing whether and how much cash should be returned to the owners of a firm is the equivalent of asking (and answering) the question of how much cash accumulated in a firm is too much cash.

In Chapter 10, we introduce the basic tradeoff that determines whether cash should be left in a business or taken out of it. For stockholders in publicly traded firms, we note that this decision is fundamentally one of whether they trust the managers of the firms with their cash, and much of

this trust is based on how well these managers have invested funds in the past. In Chapter 11, we consider the options available to a firm to return assets to its owners—dividends, stock buybacks, and spin-offs—and investigate how to pick between these options.

Corporate Financial Decisions, Firm Value, and Equity Value

If the objective function in corporate finance is to maximize firm value, it follows that firm value must be linked to the three corporate finance decisions outlined—investment, financing, and dividend decisions. The link between these decisions and firm value can be made by recognizing that *the value of a firm is the present value of its expected cash flows, discounted back at a rate that reflects both the riskiness of the projects of the firm and the financing mix used to finance them*. Investors form expectations about future cash flows based on observed current cash flows and expected future growth, which in turn depend on the quality of the firm's projects (its investment decisions) and the amount reinvested back into the business (its dividend decisions). The financing decisions affect the value of a firm through both the discount rate and potentially through the expected cash flows.

This neat formulation of value is put to the test by the interactions among the investment, financing, and dividend decisions and the conflicts of interest that arise among the different players in the game – managers, stockholders, and lenders who do not always read from the same script. We introduce the basic models available to value a firm and its equity in Chapter 12, and relate them back to management decisions on investment, financial, and dividend policies. In the process, we examine the determinants of value and how firms can increase their value.

A Real-World Focus

The proliferation of news and information on real-world businesses making decisions every day suggests that we do not need to use hypothetical examples to illustrate the principles of corporate finance. We will use six businesses through this book to make our points about corporate financial policy:

1. ***Disney:*** Disney is a publicly traded firm with wide holdings in entertainment and media. People around the world recognize the Mickey Mouse logo and have heard about or visited a Disney theme park or seen some or all of the Disney animated classic movies, but it is a much more diversified corporation than most people realize. Disney's holdings include cruise ships, real estate (in the form of time shares and rental properties), television (Disney Cable, ABC, A&E, and ESPN), publications, movie studios (Lucasfilm, Marvel, Pixar, and Disney), and consumer products. Disney will help illustrate the decisions that large multibusiness and multinational corporations have to make as they are faced with the conventional corporate financial decisions.
2. ***Bookscape Books:*** This company is a privately owned independent bookstore in New York City, one of the few left after the invasion of the bookstore chains and online retailers (and, in particular, Amazon). We will take Bookscape Books through the corporate financial decision-making process to illustrate some of the issues that come up when looking at small businesses with private owners.
3. ***Vale:*** Vale is a global metals and mining company that was founded and is still incorporated in Brazil. Although it has mining operations around the world, we use it to illustrate some of the questions that have to be dealt with when analyzing a company that is highly dependent upon commodity prices (iron ore in the case of Vale), and that operates in an emerging market, where political risk and economic uncertainty can become key drivers of both profitability and value.
4. ***Baidu:*** Baidu is a web services company built around a Chinese-language search engine that was founded in 2000 by Robin Li, then a graduate student at the State University of Buffalo. Its

reach in China made it the fifth ranked online site globally in late 2012 and it derives its revenues primarily from online advertising. Its primary stock listing, on the NASDAQ, is for a holding (shell) company with its operating counterpart in China structured as a “variable interest entity”. This structure is designed to get around a Chinese ban on foreign investment in some sectors (including online businesses). Baidu will allow us to look at the corporate finance decisions faced by a young technology company as well as the challenges of being an investor in an environment where legal protections for stockholder rights are weak or diffuse.

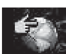
5. ***Deutsche Bank:*** Deutsche Bank is the leading commercial bank in Germany and is also a leading player in investment banking. We will use Deutsche Bank to illustrate some of the issues that come up when a financial service firm has to make investment, financing, and dividend decisions. As banks are highly regulated institutions, it will also serve to illustrate the constraints and opportunities created by the regulatory framework.
6. ***Tata Motors:*** Tata Motors is an automobile company and is part of one of the largest Indian family group companies, the Tata Group. In addition to allowing us to look at issues specific to manufacturing firms, Tata Motors will also give us an opportunity to examine how firms that are part of larger groups make corporate finance decisions and the potential conflicts of interest that arise in this setting.

We will look at every aspect of finance through the eyes of all six companies, sometimes to draw contrasts between the companies, but more often to show how much they share in common.

A Resource Guide

To make the learning in this book as interactive and current as possible, we employ a variety of devices.

This icon indicates that spreadsheet programs can be used to do some of the analysis that will be presented. For instance, there are spreadsheets that calculate the optimal financing mix for a firm as well as valuation spreadsheets.



This symbol marks the second supporting device: updated data on some of the inputs that we need and use in our analysis that is available online for this book. Thus, when we estimate the risk parameters for firms, we will draw attention to the data set that is maintained online that reports average risk parameters by industry.

At regular intervals, we will also ask readers to answer questions relating to a topic. These questions, which will generally be framed using real-world examples, will help emphasize the key points made in a chapter and will be marked with this icon.

In each chapter, we will introduce a series of boxes titled “In Practice,” which will look at issues that are likely to come up in practice and ways of addressing these issues.

We examine how firms behave when it comes to assessing risk, evaluating investments and determining the mix off debt and equity, and dividend policy. To make this assessment, we will look at both surveys of decision makers (which chronicle behavior at firms) as well as the findings from studies in behavioral finance that try to explain patterns of management behavior.

Some Fundamental Propositions about Corporate Finance

There are several fundamental arguments we will make repeatedly throughout this book.

1. ***Corporate finance has an internal consistency*** that flows from its choice of maximizing firm value as the only objective function and its dependence on a few bedrock principles: Risk has to be rewarded, cash flows matter more than accounting income, markets are not easily fooled, and every decision a firm makes has an effect on its value.
2. ***Corporate finance must be viewed as an integrated whole*** rather than a collection of decisions. Investment decisions generally affect financing decisions and vice versa; financing decisions often influence dividend decisions and vice versa. Although there are circumstances under which these decisions may be independent of each other, this is seldom the case in practice. Accordingly, it is unlikely that firms that deal with their problems on a piecemeal basis will ever resolve these problems. For instance, a firm that takes poor investments may soon find itself with a dividend problem (with insufficient funds to pay dividends) and a financing problem (because the drop in earnings may make it difficult for them to meet interest expenses).
3. ***Corporate finance matters to everybody*** There is a corporate financial aspect to almost every decision made by a business; although not everyone will find a use for all the components of corporate finance, everyone will find a use for at least some *part* of it. Entrepreneurs, marketing managers, corporate strategists, human resource managers, and information technology managers all make corporate finance decisions every day and often do not realize it. An understanding of corporate finance will help them make better decisions.
4. ***Corporate finance is fun*** This may seem to be the tallest claim of all. After all, most people associate corporate finance with numbers, accounting statements, and hardheaded analyses. Although corporate finance is quantitative in its focus, there is a significant component of creative thinking involved in coming up with solutions to the financial problems businesses do encounter. It is no coincidence that financial markets remain breeding grounds for innovation and change.
5. ***The best way to learn corporate finance is by applying its models and theories to real-world problems*** Although the theory that has been developed over the past few decades is impressive, the ultimate test of any theory is application. As we show in this book, much (if not all) of the theory can be applied to real companies and not just to abstract examples, although we have to compromise and make assumptions in the process.

Conclusion

This chapter establishes the first principles that govern corporate finance. The investment principle specifies that businesses invest only in projects that yield a return that exceeds the hurdle rate. The financing principle suggests that the right financing mix for a firm is one that maximizes the value of the investments made. The dividend principle requires that cash generated in excess of good project needs be returned to the owners. These principles are the core for what follows in this book.

Live Case Study

I. Company Choice/Background

Objective: To pick a company to analyze, collect background information and start thinking about the narrative for the company.

Key Steps

1. Choose a company that you want to work at, understand, or own, rather than one that you think will be easy to analyze or widely followed. Consequently, the company can be of any size, in any sector, or any market. In fact, it can be a privately owned (by you, your family, or a friend) business.
2. Collect information, both financial and nonfinancial, about your company and the sector that it operates in. While you may have to return to this step later in the analysis, it is good to get the basic information.
3. Establish your prior views of this company. Put differently, given what you know now about the company (which may be based on limited information or even hearsay), evaluate whether you think that this company is a well-managed, good company or a poorly managed mess.

Framework for Analysis

1. ***Collect information about the company***
   - **a.** Start with the annual reports (three to five years), if it is a publicly traded company. You can usually get them from the company's own website. If it is a young company, you may have only a year or two of financial statements.
   - **b.** Look for filings made by the company with regulatory agencies. For instance, in the United States, publicly traded companies have to file annual (10-K) and quarterly (10-Q) reports, among a whole array of filings. You can access these reports from the agency websites. If you are assessing a company that is not in the United States, look for the equivalent of the SEC in the country of incorporation and see if you have access to any filings. If you do not, it is not the end of the world. You will still be able to complete your analysis.
   - **c.** If you are analyzing a private business, you will need access to the financial reports. Again, those filings may be less detailed and credible than public company reports, but remember that you can directly ask the owner for information, if you need it.
2. ***Sector information***
   - **a.** Try to get basic operating metrics for the peer group (competitors) for your company. For the moment, focus on revenues and profitability at these companies. You will be returning to look for more information on these companies, later in your analysis. If you have access to one of the larger, paid databases (e.g., Capital IQ, Factset, and Compustat), this will be easy to do. If not, you will have to use a free online data source such as Yahoo! Finance or Google Finance.
   - **b.** Find out more about the overall market that all of your companies are trying to access. (Thus, if you are looking at online advertising companies, you would like to see how big the market is, how fast it is growing, and what parts of the world are growing the most). You can check for trade groups (every business generally has a trade group) but you will be amazed at how much you can find online, with a few hours and a good search engine.
3. ***Company narrative***
   This will be entirely subjective, but based on what you know about the company you have picked (as this choice is usually not random), what do you think about this company's products, its operations, its management, and its business model?

CHAPTER 2

THE OBJECTIVE IN DECISION MAKING

If you do not know where you are going, it does not matter how you get there.

ANONYMOUS

Learning Objectives

2.1. Identify the characteristics of a good decision-making objective.

2.2. Explain why corporate finance theory tends to focus on the decision-making objective of stock price maximization.

2.3. List the assumptions that must hold true in order for stock price maximization to impose no side costs.

2.4. Describe some of the ways in which real-world conflicts of interest complicate the use of stock price maximization as a decision-making objective.

2.5. Evaluate potential alternatives to stock price maximization.

2.6. Discuss how the market's capacity for self-correction can reduce the problems associated with stock price maximization.

2.7. Summarize the conflict between wealth maximization and social welfare and the role of corporate finance in that conflict.