

Fundamentals of Corporate Finance



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Fifth Edition

ROBERT PARRINO

Lamar Savings Centennial
Professor of Finance
University of Texas at Austin

THOMAS W. BATES

Dean's Council Scholar and
Associate Professor of Finance
Arizona State University

STUART L. GILLAN

G. Brint Ryan Chaired Professor of Finance
University of North Texas

DAVID S. KIDWELL

Professor of Finance and Dean Emeritus
University of Minnesota

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This book was typeset in 9.5/12 STIX Two Text at Lumina Datamatics.

This book is printed on acid free paper. ∞

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ePUB ISBN: 978-1-119-79538-4

The inside back cover will contain printing identification and country of origin if omitted from this page. In addition, if the ISBN on the back cover differs from the ISBN on this page, the one on the back cover is correct.

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

Dedication

ROBERT PARRINO

To my parents, whose life-long support and commitment to education inspired me to become an educator, and to my wife, Emily, for her unending support.

THOMAS BATES

To my wife, Emi, and our daughters, Abigail and Lillian. Your support, patience, fun, and friendship make me a better person.

STUART GILLAN

To the memory of my father, and to my family for their never-ending support and encouragement.

DAVID KIDWELL (1940-2019)

To my parents, Dr. William and Margaret Kidwell, for their endless support of my endeavors; to my son, David Jr., of whom I am very proud; and to my wife, Jillinda, who is the joy of my life.

About the Authors



ROBERT PARRINO

*Lamar Savings Centennial Professor of Finance
McCombs School of Business, University of Texas at Austin*

A member of the faculty at University of Texas since 1992, Dr. Parrino teaches courses in regular degree and executive education programs at the University of Texas and in customized executive education courses for industrial, financial, and professional firms. He has also taught at the University of Chicago, University of Rochester, and IMADEC University in Vienna. Dr. Parrino has received awards for teaching excellence at the University of Texas from students, faculty, and the Texas Exes (alumni association).

Dr. Parrino's research includes studies of corporate governance, financial policies, restructuring, mergers and

acquisitions, and private equity markets. He has published in the *Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Journal of Law and Economics*, *Journal of Portfolio Management*, and *Financial Management* and received a number of awards for his research.

Dr. Parrino holds a B.S. degree in chemical engineering from Lehigh University, an MBA degree from The College of William and Mary, and M.S. and Ph.D. degrees in applied economics and finance, respectively, from the University of Rochester.



THOMAS W. BATES

Dean's Council Scholar and Associate Professor of Finance at the W. P. Carey School of Business, Arizona State University.

Dr. Bates is a Dean's Council Scholar and Associate Professor of Finance at the W. P. Carey School of Business, Arizona State University. In his current role, he also serves as Director of Executive MBA programs for the W. P. Carey school. Prior to his current appointment, he served as Department Chair of the Department of Finance from 2010 until 2020. Dr. Bates has also held positions as an Associate Professor of Finance and McCoy Rogers Fellow at University of Arizona, and as an Assistant Professor of Finance at both University of Delaware and University of Western Ontario. Dr. Bates received a B.A. in Economics from Guilford College in 1991, and received his doctorate in Financial Economics 2000 from the University of Pittsburgh.

Professor Bates is a regular contributor to the academic literature in financial economics, publishing in journals such as *The Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Journal of Accounting and Economics*, and *Financial Management*. His work addresses a variety of issues, including the contracting environment in mergers and acquisitions, corporate liquidity decisions and cash holdings, the governance of corporations, and the role of automation on corporate financial policies. Dr. Bates serves on numerous national and international conference program committees, and currently holds a position as Associate Editor at the *Journal of Corporate Finance*.

Dr. Bates teaches corporate finance to students at the undergraduate, MBA, executive MBA, and Ph.D. levels. In addition, he has designed and taught in a variety of custom corporate and executive education programs. Dr. Bates has served as an instructor to students around the world in countries as varied as China, Mexico, Canada, and Ecuador. In recognition of his outstanding work in the classroom, Bates received the Scrivner teaching award from the University of Arizona.

Professor Bates is actively involved in the practice of finance. He has assisted as an advisor to the Financial Executives International (FEI) Arizona chapter, and currently serves as an advisor to the Investment Committee of the Arizona State University Foundation. Dr. Bates is also active in consulting and litigation support roles, advising corporations and law firms on issues related to the valuation of companies and their securities, corporate governance, and executive compensation.



STUART L. GILLAN

G. Brint Ryan Chaired Professor of Finance in the Ryan College of Business, University of North Texas

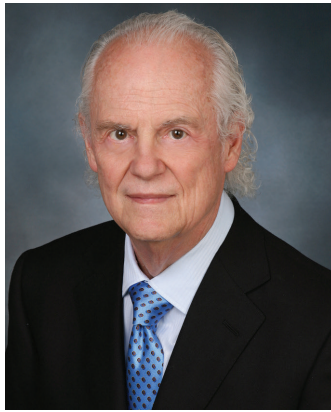
Dr. Gillan is the G. Brint Ryan Chaired Professor of Finance in the Ryan College of Business at the University of North Texas.

He has held academic positions at Arizona State University, the University of Delaware, the University of Georgia, the University of Hong Kong, the University of Otago, and Texas Tech University. He has also been a visiting scholar at the Chinese University of Hong Kong, University of Canterbury, the Hong Kong Polytechnic University, and a William Evans Fellow at the University of Otago. In addition to teaching corporate finance classes to undergraduate, masters, MBA, and executive MBA students, Dr. Gillan has taught in customized executive education and corporate programs. He has also been nominated for and received teaching awards.

Dr. Gillan has served as Co-Editor of the *Journal of Corporate Finance*, as Associate Editor at the *Review of Financial Studies*, as Associate Editor at *Accounting and Finance*, and on the editorial advisory board of the *Journal of Applied Corporate Finance*. He has written and published extensively on corporate finance and corporate governance, including topics such as corporate restructuring, executive compensation, shareholder activism, shareholder voting, and the structure and activity of corporate boards. His research has been published in the *Journal of Finance*, *Journal of Financial Economics*, *Review of Financial Studies*, *Journal of Corporate Finance*, *Journal of Risk and Insurance*, *Financial Management*, and *Journal of Applied Corporate Finance*, among others. He has received best paper awards from academic finance groups including the Financial Management Association International, the Indian School of Business Center for Analytical Finance, and the Western Finance Association.

Dr. Gillan's industry experience includes time as Associate Chief Economist at the United States Securities and Exchange Commission (SEC) and Senior Research Fellow with TIAA, a New York-based financial services company.

He received his Ph.D. from the Graduate School of Business at the University of Texas, Austin. His Bachelor of Commerce (Honors) and Master of Commerce degrees are from the University of Otago, New Zealand.



DAVID S. KIDWELL (1940-2019)

Professor of Finance and Dean Emeritus, Curtis L. Carlson School of Management, University of Minnesota

Dr. Kidwell had over 30 years experience in financial education, as a teacher, researcher, and administrator. He served as Dean of the Carlson School at the University of Minnesota and of the School of Business Administration at the University of Connecticut. Prior to joining the University of Connecticut, Dr. Kidwell held endowed chairs in banking and finance at Tulane University, the University of Tennessee, and Texas Tech University. He was also on the faculty at the Krannert Graduate School of Management, Purdue University, where he was twice voted the outstanding undergraduate teacher of the year.

An expert on the U.S. financial system, Dr. Kidwell was the author of more than 80 articles dealing with the U.S. financial system and capital markets. He published his research in the leading journals, including *Journal of Finance*, *Journal of Financial Economics*, *Journal of Financial and Quantitative Analysis*, *Financial Management*, and *Journal of Money, Credit, and Banking*. Dr. Kidwell also participated in a number of research grants funded by the National Science Foundation to study the efficiency of U.S. capital markets, and to study the

impact of government regulations on the delivery of consumer financial services.

Dr. Kidwell was a management consultant for Coopers & Lybrand and a sales engineer for Bethlehem Steel Corporation. He served on the Board of Directors for the Schwan Food Company and was the Chairman of the Audit and Risk Committee. Dr. Kidwell was the past Secretary-Treasurer of the Board of Directors of AACSB, the International Association for Management Education and was a past member of the Boards of the Minnesota Council for Quality, the Stonier Graduate School of Banking, and Minnesota Center for Corporate Responsibility. Dr. Kidwell also served as an Examiner for the 1995 Malcolm Baldrige National Quality Award, on the Board of Directors of the Juran Center for Leadership in Quality, and on the Board of the Minnesota Life Insurance Company.

Dr. Kidwell held an undergraduate degree in mechanical engineering from California State University at San Diego, an MBA with a concentration in finance from California State University at San Francisco, and a Ph.D. in finance from the University of Oregon.

Organization and Coverage

In order to help students develop the skills necessary to tackle investment and financing decisions in corporate finance, we have arranged the book's 21 chapters into five major building blocks, which collectively comprise the seven parts of the book, as illustrated in the accompanying exhibit and described below.

Introduction

Part 1, which consists of Chapter 1, provides an introduction to corporate finance. It describes the role of the financial manager, the types of fundamental decisions that financial managers make, alternative forms of business organization, the goal of the firm, agency conflicts and how they arise, and the importance of ethics in financial decision making. These discussions set the stage and provide a framework that students can use to think about key concepts as the course progresses.

Foundations

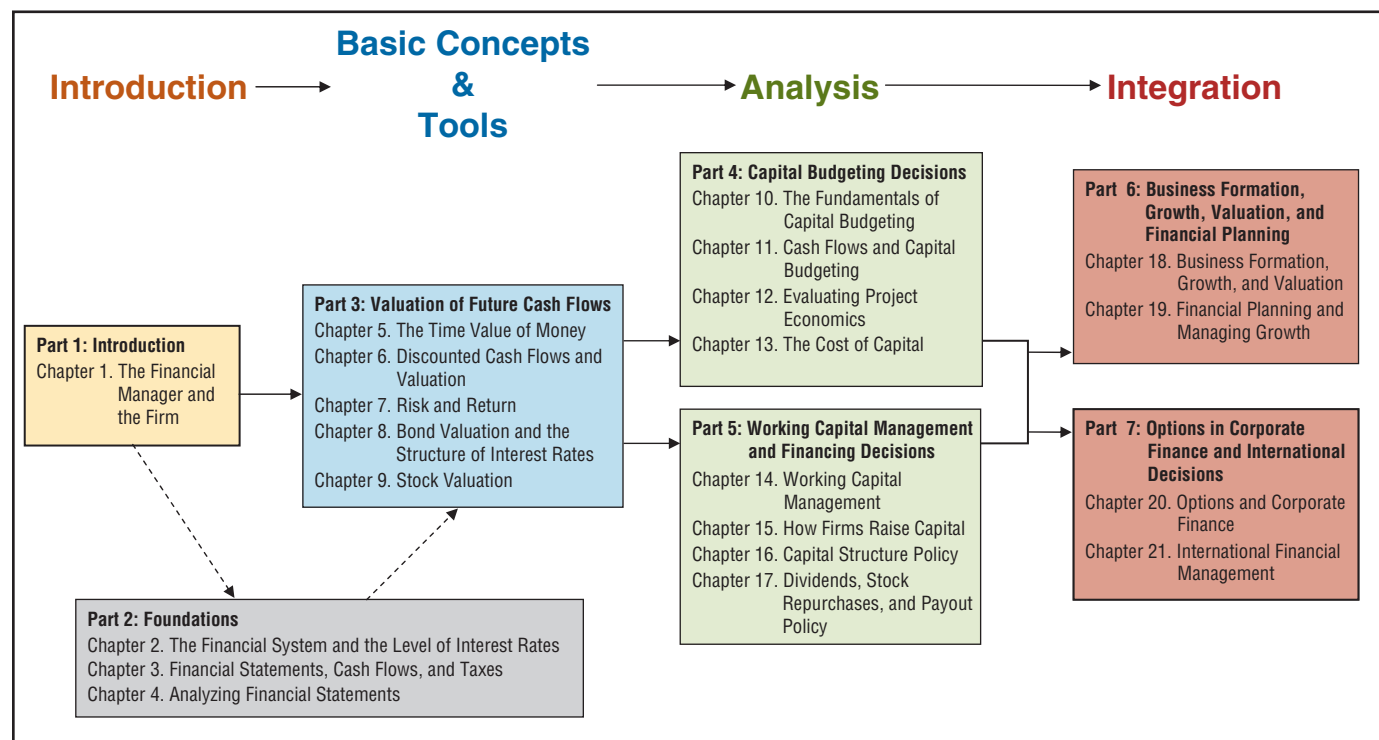
Part 2 of the text consists of Chapters 2 through 4. These chapters present the basic institutional, economic, and accounting knowledge and tools that students should understand before they begin the study of financial concepts. Most of the material in these chapters is typically taught in other courses. Since students come to the corporate finance course with varying academic backgrounds, and because the time that has elapsed since students have taken particular prerequisite courses also varies, the chapters in *Part 2* can help the

instructor ensure that all students have the same base level of knowledge early in the course. Depending on the educational background of the students, the instructor might not find it necessary to cover all or any of the material in these chapters. Some or all of these chapters might, instead, be assigned as supplemental readings.

Chapter 2 describes the services financial institutions provide to businesses, how domestic and international financial markets work, the concept of market efficiency, how firms use financial markets, and how interest rates are determined in the economy. Chapter 3 describes the key financial statements and how they are related, as well as how these statements are related to cash flows to investors. Chapter 4 discusses ratio analysis and other tools used to evaluate financial statements. Throughout *Part 2*, we emphasize the importance of cash flows to get students thinking about this critical component of all valuation calculations and financial decisions.

Basic Concepts and Tools

Part 3 presents basic financial concepts and tools and illustrates their application. This part of the text, which consists of Chapters 5 through 9, introduces time value of money and risk and return concepts and then applies these concepts to bond and stock valuation. These chapters provide students with the basic financial intuition and computational tools that will serve as the building blocks for analyzing investment and financing decisions in subsequent chapters.



Analysis

Parts 4 and 5 of the text focus on investment and financing decisions. Part 4 covers capital budgeting. Chapter 10 introduces the concept of net present value and illustrates its application as the principle tool for evaluating capital projects. It also discusses alternative capital budgeting decision rules, such as internal rate of return, payback period, and accounting rate of return, and compares them with the net present value criteria. Finally, Chapter 10 discusses investment decisions with capital rationing. The discussions in Chapter 10 provide a framework that will help students in the rest of Part 4 as they learn the nuances of capital budgeting analysis in realistic settings.

Chapters 11 and 12 follow with in-depth discussions of how project cash flows are calculated and forecast. The cash flow calculations are presented in Chapter 11 using a valuation framework that helps students think about valuation concepts in an intuitive way and that prepares them for the extension to business valuation in Chapter 18. Chapter 12 covers analytical tools—such as break-even, sensitivity, scenario, and simulation analysis—that give students a better appreciation for how they can deal with the uncertainties associated with cash flow forecasts.

Chapter 13 explains how the discount rates used in capital budgeting are estimated. This chapter uses an innovative concept—that of the finance balance sheet—to help students develop an intuitive understanding of the relations between the costs of the individual components of capital and the firm's overall weighted average cost of capital. It also provides a detailed discussion of methods used to estimate the costs of the individual components of capital that are used to finance a firm's investments and how these estimates are used in capital budgeting.

Part 5 covers working capital management and financing decisions. It begins, in Chapter 14, with an introduction to how firms manage their working capital and the implications of working capital management decisions for financing decisions and firm value. This is followed, in Chapters 15 and 16, with discussions of how firms raise capital to fund their real activities and the factors that affect how firms choose among the various sources of capital available to them. Chapter 16 also includes an extensive appendix on leasing concepts and buy versus lease analysis. Chapter 17 rounds out the discussion of financing decisions with an introduction to dividends, stock repurchases, stock dividends and splits, and payout policy.

Integration

Part 6, which consists of Chapters 18 and 19, brings together many of the key concepts introduced in the earlier parts of

the text. Chapter 18 covers financial aspects of business formation and growth and introduces students to business valuation concepts for both private and public firms. The discussions in this chapter integrate the investment and financing concepts discussed in Parts 4 and 5 to provide students with a more complete picture of how all the financial concepts fit together. Chapter 19 covers concepts related to financial planning, forecasting, and managing growth.

Part 7 introduces students to some important issues that managers must deal with in applying the concepts covered in the text to real-world problems. Chapter 20 introduces call and put options and discusses how they relate to investment and financing decisions. It describes options that are embedded in the securities that firms issue. It also explains, at an accessible level, the idea behind real options and why traditional NPV analysis does not take such options into account. In addition, the chapter discusses agency costs of debt and equity and the implications of these costs for investment and financing decisions. Finally, Chapter 20 illustrates the use of options in risk management. Instructors can cover the topics in Chapter 20 near the end of the course or insert them at the appropriate points in Parts 4 and 5. Chapter 21 examines how international considerations affect the application of concepts covered in the book.

Unique Chapters

Chapter on Business Formation, Growth, and Valuation

We wrote Chapter 18 in response to students' heightened interest in new business formation (entrepreneurship) and in order to draw together, in a comprehensive way, the key concepts from capital budgeting, working capital management, and financial policy. This capstone chapter provides an overview of practical finance issues associated with forecasting cash flows and capital requirements for a new business, preparing a business plan, and business valuation. The discussion of business valuation extends far beyond that found in other introductory corporate finance textbooks.

Chapter on Options and Corporate Finance

Many other corporate finance textbooks have a chapter that introduces students to financial options and how they are valued. This chapter goes further. It provides a focused discussion of the different types of financial and nonfinancial options that are of concern to financial managers. Topics include options embedded in debt and equity securities; real options and their effect on project analysis; how option-like payoff functions faced by stockholders, bondholders, and managers affect agency relationships; and the use of options in risk management.

Proven Pedagogical Framework

We have developed several distinctive features throughout the book to aid student learning. The pedagogical features included in our text are as follows:



Chapter Opener Vignettes

Each chapter begins with a vignette that describes a real company or personal application. The vignettes illustrate concepts that will be presented in the chapter and are meant to heighten student interest, motivate learning, and demonstrate the real-life relevance of the material in the chapter.

Learning Objectives

The opening vignette is accompanied by learning objectives that identify the most important material for students to understand while reading the chapter. At the end of the chapter, the Summary of Learning Objectives summarizes the chapter content in the context of the learning objectives.

LEARNING BY DOING

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APPLICATION 7.1 | Calculating the Return on an Investment

Problem You purchased a beat-up 1974 Datsun 240Z sports car a year ago for \$1,500. Datsun is what Nissan, the Japanese car company, was called in the 1970s. The 240Z was the first in a series of cars that led to the Nissan 370Z that is being sold today. Recognizing that a mint-condition 240Z is a much sought-after car, you invested \$7,000 and a lot of your time in fixing up the car. Last week, you sold it to a collector for \$18,000. Not counting the value of the time you spent restoring the car, what is the total return you earned on this investment over the one-year holding period?

Approach Use Equation 7.1 to calculate the total holding period return. To calculate R_T using Equation 7.1, you must know P_0 , P_1 , and CF_1 . In this problem, you can assume that the \$7,000 was spent at the time you bought the car to purchase parts and materials. Therefore, your initial investment, P_0 , was $\$1,500 + \$7,000 = \$8,500$. Since there were no other cash inflows or outflows between the time that you bought the car and the time that you sold it, CF_1 equals \$0.

Solution The total holding period return is:

$$R_T = R_{CA} + R_I = \frac{P_1 - P_0 + CF_1}{P_0} = \frac{\$18,000 - \$8,500 + \$0}{\$8,500} = 1.118, \text{ or } 111.8\%$$

Learning by Doing Applications

Along with a generous number of in-text examples, most chapters include several Learning by Doing Applications. These applications contain quantitative problems with step-by-step solutions to help students better understand how to apply their intuition and analytical skills to solve important problems. By including these exercises, we provide students with additional practice in the application of the concepts, tools, and methods that are discussed in the text.

Building Intuition

Students must have an intuitive understanding of a number of important principles and concepts to successfully master the finance curriculum. Throughout the book, we emphasize these important concepts by presenting them in Building Intuition boxes. These boxes provide a statement of an important finance concept, such as the relation between risk and expected return, along with an intuitive example or explanation to help the student “get” the concept. These boxes help the students develop finance intuition. Collectively, the Building Intuition boxes cover the most important concepts in corporate finance.

Building Intuition

More Risk Means a Higher Expected Return

The greater the risk associated with an investment, the greater the return investors expect from it. A corollary to this idea is that investors want the highest return for a given level of risk or the lowest risk for a given level of return. When choosing between two investments that have the same level of risk, investors prefer the investment with the higher return. Alternatively, if two investments have the same expected return, investors prefer the less risky alternative.

EXAMPLE 7.2 | Choosing between Two Investments

Situation You are trying to decide whether to invest in one or both of two different stocks. Stock 1 has a beta of 0.8 and, based on its current price, has an expected return of 7.0 percent. Stock 2 has a beta of 1.2 and, based on its current price, has an expected return of 9.5 percent. You remember learning about the CAPM in school and believe that it does a good job of telling you what the appropriate expected return should be for a given level of risk. Since the risk-free rate is 4 percent and the market risk premium is 6 percent, the CAPM tells you that the appropriate expected rate of return for an asset with a beta of 0.8 is 8.8 percent. The corresponding return for an asset with a beta of 1.2 is 11.2 percent. Should you invest in either or both of these stocks?

Decision You should not invest in either stock. The expected returns for both of them are below the values predicted by the CAPM for investments with the same level of risk. In other words, both would plot below the line in Exhibit 7.11. This implies that they are both overpriced.

DECISION MAKING

Decision-Making Examples

Throughout the book, we emphasize the role of the financial manager as a decision maker. To that end, twenty chapters include Decision-Making Examples. These examples, which emphasize the decision-making process rather than computation, provide students with experience in financial decision making. Each Decision-Making Example outlines a scenario and asks the student to make a decision based on the information presented.

End of Chapter Pedagogy

Summary of Learning Objectives and Key Equations

At the end of the chapter, you will find a summary of the key chapter content related to each of the learning objectives listed at the beginning of the chapter, as well as an exhibit listing the key equations in the chapter.

Summary of Learning Objectives

1 Explain the relation between risk and return.

Investors require higher returns for taking greater risk. They prefer the investment with the highest possible return for a given level of risk or the investment with the lowest risk for a given level of return.

2 Describe the two components of a total holding period return, and calculate this return for an asset.

The total holding period return on an investment consists of a capital appreciation component and an income component. This return is calculated using Equation 7.1. It is important to recognize that investors do not care whether they receive a dollar of return through capital appreciation or as a cash dividend. Investors value both sources of return equally.

3 Explain what an expected return is, and calculate the expected return for an asset.

within a particular range. To calculate the standard deviation, the variance is first calculated using Equation 7.3. The standard deviation of returns is then calculated by taking the square root of the variance.

5 Explain what an arithmetic average return is and what a geometric average return is, and calculate these returns for an asset.

The arithmetic average return is the return earned in an average period, while the geometric average return is the average compounded return earned by an investor. Equations 7.4 and 7.5 are used to calculate these returns.

6 Explain the concept of diversification and its effect on risk.

Diversification entails reducing risk by investing in two or more assets whose returns do not always move in the same direction at the same time. Investing in a portfolio containing assets whose prices do

Summary of Key Equations

| Equation | Description | Formula |
|----------|--------------------------------|---|
| 7.1 | Total holding period return | $R_T = R_{CA} + R_I = \frac{P_1 - P_0}{P_0} + \frac{CF_1}{P_0} = \frac{\Delta P + CF_1}{P_0}$ |
| 7.2 | Expected return on an asset | $E(R_{Asset}) = \sum_{i=1}^n (p_i \times R_i)$ |
| 7.3 | Variance of return on an asset | $Var(R) = \sigma_R^2 = \sum_{i=1}^n \{p_i \times [R_i - E(R)]^2\}$ |

Self-Study Problems

6.1 Kronka, Inc., is expecting cash inflows of \$13,000, \$11,500, \$12,750, and \$9,635 over the next four years. What is the present value of these cash flows if the appropriate discount rate is 8 percent?

6.2 Your grandfather has agreed to deposit a certain amount of money each year into an account paying 7.25 percent annually to help you go to graduate school. Starting next year, and for the following four years, he plans to deposit \$2,250, \$8,150, \$7,675, \$6,125, and \$12,345 into the account. How much will you have at the end of the five years?

to invest the same amount at the end of each of the next three years in an account paying 6 percent. What is the amount that he will have to save every year to reach his goal of \$7,500 in three years?

6.4 Becky Scholes has \$150,000 to invest. She wants to be able to withdraw \$12,500 every year forever without using up any of her principal. What interest rate would her investment have to earn in order for her to be able to do so?

6.5 Dynamo Corp. is expecting annual payments of \$34,225 for the

Self-Study Problems with Solutions

Five problems similar to the in-text Learning by Doing Applications follow the summary and provide additional examples with step-by-step solutions to help students further develop their problem-solving and computational skills.

Solutions to Self-Study Problems

6.1 The time line for Kronka's cash flows and their present value is as follows:

0 1 2 3 4 Year
8%
\$13,000 \$11,500 \$12,750 \$9,635

$$PV_0 = \frac{\$13,000}{1.08} + \frac{\$11,500}{(1.08)^2} + \frac{\$12,750}{(1.08)^3} + \frac{\$9,635}{(1.08)^4}$$
$$= \$12,037.04 + \$9,859.40 + \$10,121.36 + \$7,082.01$$
$$= \$39,099.81$$

6.2 The time line for your cash flows and their future value is as follows:

0 1 2 3 4 5 Year
7.25%
-\$2,250 -\$8,150 -\$7,675 -\$6,125 -\$12,345

$$FV_5 = [\$2,250 \times (1.0725)^4] + [\$8,150 \times (1.0725)^3] + [\$7,675 \times (1.0725)^2] + [\$6,125 \times 1.0725] + \$12,345$$
$$= \$2,976.95 + \$10,054.25 + \$8,828.22 + \$6,569.06 + \$12,345.00$$
$$= \$40,773.48$$

Discussion Questions

At least ten qualitative questions, called Discussion Questions, require students to think through their understanding of key concepts and apply those concepts to a problem.

Discussion Questions

7.1 Suppose that you know the risk and the expected return for two stocks. Discuss the process you might utilize to determine which of the two stocks is a better buy. You may assume that the two stocks will be the only assets held in your portfolio.

7.2 What is the difference between the expected rate of return and the required rate of return? What does it mean if they are different for a particular asset at a particular point in time?

7.3 Suppose that the standard deviation of the returns on the shares of stock at two different companies is exactly the same. Does this mean that the required rate of return will be the same for these two stocks? How might the required rate of return on the stock of a third company be greater than the required rates of return on the stocks of the first two companies even if the standard deviation of the returns of the third company's stock is lower?

7.4 The correlation between Stocks A and B is 0.50, while the correlation between Stocks A and C is -0.5. You already own Stock A and

7.6 Which investment category included in Exhibit 7.3 has shown the greatest degree of risk in the United States since 1926? Explain why that makes sense in a world where the value of an asset in this investment category is likely to be more sensitive to changes in market conditions than is the price of a corporate bond.

7.7 You are concerned about one of the investments in your fully diversified portfolio. You just have an uneasy feeling about the CFO, Iam Shifty, of that particular firm. You do believe, however, that the firm makes a good product and that it is appropriately priced by the market. Should you be concerned about the effect on your portfolio if Shifty embezzles a portion of the firm's cash?

7.8 The CAPM is used to price the risk (estimate the expected return) for any asset. Our examples have focused on stocks, but we could also use CAPM to estimate the expected rate of return for bonds. Explain why.

7.9 In recent years, investors have agreed that the market portfolio consists of more than just a group of U.S. stocks and bonds. If you are

Questions and Problems

The Questions and Problems, numbering 26 to 48 per chapter, are primarily quantitative and are classified as Basic, Intermediate, or Advanced.

Excel Problems

Selected problems can be solved using Excel templates within *Wiley Course Resources*.

Questions and Problems



Excel templates and resources available in Wiley Course Resources.

Basic

- 7.1 Returns:** Describe the difference between a total holding period return and an expected return.
- 7.2 Expected returns:** John is watching an old game show rerun called *Let's Make a Deal* in which the contestant chooses a prize behind one of two curtains. Behind one of the curtains is a gag prize worth \$150, and behind the other is a round-the-world trip worth

7.5 Single-asset portfolios: Stocks A, B, and C have expected returns of 15 percent, 15 percent, and 12 percent, respectively, while their standard deviations are 45 percent, 30 percent, and 30 percent, respectively. If you were considering the purchase of each of these stocks as the only holding in your portfolio and the risk-free rate is 0 percent, which stock should you choose?

Intermediate

- 7.15 Expected returns:** José is thinking about purchasing a soft drink machine and placing it in a business office. He knows that there is a 5 percent probability that someone who walks by the machine will make a purchase from the machine, and he knows that the profit on each soft drink sold is \$0.10. If José expects a thousand

7.20 Single-asset portfolios: Using the information from Problems 7.17, 7.18, and 7.19, calculate the coefficient of variation for each of the investments in those problems.

7.21 Portfolios with more than one asset: Emmy is analyzing a two-stock portfolio that consists of a utility stock and a commodity stock. She

Advanced

- 7.29** David is going to purchase two stocks to form the initial holdings in his portfolio. Iron stock has an expected return of 15 percent, while Copper stock has an expected return of 20 percent. If David plans to invest 30 percent of his funds in Iron and the remainder in Copper, what will be the expected return from his portfolio? What if David invests 70 percent of his funds in Iron stock?

expected return of 20 percent. Plot it on the graph. Is this security properly priced? If not, explain what we might expect to happen to the price of this security in the market.

7.36 If the CAPM describes the relation between systematic risk and expected returns, can both an individual asset and the market portfolio be fairly priced at the same time? Explain.

CFA Problems

- 4.38** Common-size analysis is used in financial analysis to:
- evaluate changes in a company's operating cycle over time.
 - predict changes in a company's capital structure using regression analysis.
 - compare companies of different sizes or compare a company with itself over time.
 - restate each element in a company's financial statement as a proportion of the similar account for another company in the same industry.
- 4.39** The TBI Company has days' sales in inventory of 50. Therefore, the TBI Company's inventory turnover is closest to:
- 4.8 times.
 - 7.3 times.
 - 8.4 times.
 - 9.6 times.

- 4.40** DuPont analysis involves breaking return-on-assets ratios into their:
- profit components.
 - marginal and average components.
 - operating and financing components.
 - profit margin and turnover components.
- 4.41** If a company's net profit margin is -5 percent, its total asset turnover is 1.5 times, and its financial leverage ratio is 1.2 times, its return on equity is closest to:
- 9.0 percent.
 - 7.5 percent.
 - 3.2 percent.
 - 1.8 percent.

CFA Problems

Problems from CFA readings are included in the Question and Problem section in appropriate chapters.

Sample Test Problems

Finally, five or more Sample Test Problems call for straightforward applications of the chapter concepts. These problems are intended to be representative of the kind of problems that may be used in a test, and instructors can encourage students to solve them as if they were taking a quiz. Solutions are provided in the Solutions Manual.

Sample Test Problems

- 6.1** Freisinger, Inc., management is expecting a new project to start paying off beginning at the end of next year. Cash flows are expected to be as follows:

| Year | 1 | 2 | 3 | 4 | 5 |
|-----------|-----------|-----------|-----------|-----------|-----------|
| Cash Flow | \$433,676 | \$478,452 | \$475,455 | \$478,326 | \$535,444 |

If Freisinger can reinvest these cash flows to earn a return of 7.8 percent, what is the future value of this cash flow stream at the end of five years? What is its present value?

- 6.2** Compare an annuity due with an ordinary annuity. The payments for both are made annually and are of the same dollar amounts. The two annuities also have the same duration in years and the same discount rate. Which of the following statements is/are correct?

- The present value of the ordinary annuity is greater.
- The present value of the annuity due is greater.
- The future value of the ordinary annuity is greater.
- The future value of the annuity due is greater.

- 6.3** You plan to set up an endowment at your alma mater that will fund \$200,000 of scholarships each year indefinitely. If the principal (the amount you donate) can be invested at 5.5 percent, compounded annually, how much do you need to donate to the university today so that the first scholarships can be awarded beginning one year from now?

6.4 Annalise Genric wants to open a restaurant in a historic building. The property can be leased for 20 years but not purchased. She believes her restaurant can generate a net cash flow of \$76,000 the first year and expects an annual growth rate of 4 percent thereafter. If a discount rate of 15 percent is used to evaluate this business, what is the present value of the cash flows that it will generate?

6.5 A credit card offers financing at an APR of 18 percent, with monthly compounding on outstanding charges. What is the effective annual rate (EAR)?

6.6 Thomas Nguyen currently has \$10,000 in the bank earning interest of 6 percent per year, compounded monthly. If he needs \$25,000 to purchase a car and can save an additional \$100 a month starting at the end of this month, how long will it take him to accumulate the \$25,000?

Ethics Case

America's Ailing Drug Prices

In September 2016, Mylan CEO Heather Bresch appeared before the U.S. House Oversight Committee to address the controversial issue of rising prescription drug prices. Mylan was in the spotlight because of a dramatic 600 percent increase in the price of the EpiPen, a steroid injector that treats severe and sometimes deadly allergic reactions. The rise in the cost of EpiPens was stunning. Priced at \$100 for a two-pack in 2009, the same medication sold for over \$600 by the fall of 2016. Members of the House of Representatives expressed their



Reel Smart/Getty Images

Ethics Cases

Ethics is an important topic in finance. Key concepts are discussed in Chapter 1 and eight cases are included throughout this book to help students better understand how to analyze ethical dilemmas. Each case is listed in the table of contents, and appears at the end of the end-of-chapter content for the applicable chapters. Real company examples are presented, including timeless cases about Arthur Andersen and Martha Stewart's scandal involving ImClone, as well as more timely topics such as the controversy surrounding drug price increases at firms like Mylan (EpiPen) and the cross-selling scandal at Wells Fargo. In addition, two new cases that address runaway CEO pay (in Chapter 7) and General Motor's strategy for the production of electric vehicles (in Chapter 10), present current day examples of the environmental, social, and governance (ESG) factors that are increasingly important in the marketplace today. Each case includes questions for follow-up discussion in class or as an assignment.

New to This Edition

In revising *Fundamentals of Corporate Finance* we have improved the presentation and organization of key topics, added important new content, updated the text to reflect changes in market and business conditions since the fourth edition was written, improved key in-chapter pedagogical features, and added to the number and quality of the end-of-chapter problem sets.

Improved Content, Presentation, and Organization

In preparing this edition of *Fundamentals of Corporate Finance*, we extensively edited discussions throughout the text and added new content to improve the depth and effectiveness of the presentation. We also substantially modified the layout of the text to enhance the accessibility of the content in online applications, such as Wiley Course Resources. The changes that we made to the content and writing are too numerous to discuss in detail. However, examples include the addition of more in-text calculations related to cash flows associated with working capital and long-term investments in Chapter 3, the addition of a new section on arithmetic versus geometric returns in Chapter 7, and streamlining of some of bond calculation discussions in Chapter 8. Throughout the text, we added callouts for the Learning by Doing Applications and Decision Making Examples to improve the flow of the presentation. We also added two new cases, including one addressing the controversial rise in executive compensation (in Chapter 7) and another on sustainability highlighting the increasing focus of automakers on the production of electric vehicles (in Chapter 10). These new cases, added to six updated versions of ethics cases from the previous editions, provide a broader perspective on the important environmental, social, and governance (ESG) decisions facing managers today. Each case is listed in the table of contents, and appears at the end of the end-of-chapter content for the applicable chapters.

Current Financial Market and Business Information

Throughout the text, all financial market and business information for which more current data are available have been updated. Not only have the exhibits been updated, but financial values such as interest rates, risk premiums, and foreign currency exchange rates have been updated throughout the discussions in text, in-text examples, and end-of-chapter problems. In addition, all of the chapter opener vignettes have been replaced with updated examples, typically from events in 2020 and 2021. All of the chapter openers provide real world examples of how the material covered in the chapter is relevant to financial decision making.

This edition of the text also features updated tax rates that reflect the 2017 federal tax legislation that replaced progressive corporate income tax brackets with a lower, 21 percent flat rate.



cbies/123RF

In addressing corporate tax rates, we are careful to highlight that most firms pay blended rates that reflect not only federal but also state and local taxes. The 2017 federal tax law also featured two important changes in the tax treatment of accelerated depreciation and the pre-tax deductibility of interest paid by firms.

Given the complexity of these issues, we have written a standalone Appendix C that instructors can use with students to study how tax policy can impact various aspects of corporate finance. We begin our discussion in Appendix C by analyzing how the replacement of progressive corporate income tax brackets with a flat 21 percent corporate tax rate affects cash flow to investors. We then extend our treatment to include two of the most important changes in the tax law: (1) a temporary expansion of accelerated depreciation commonly referred to as “bonus depreciation” and (2) new limits on the deductibility of net business interest, determined by EBITDA, when computing pretax income. The third section of this supplement examines how the policy changes the lowered value of the interest tax shield and increased the cost of debt capital and the weighted average cost of capital (WACC) for levered firms. Finally, Appendix C considers how changes in the tax law affect corporate financial policies and the value of the firm.

In-Chapter Features

The **Learning Objectives** at the beginning of each chapter have been revised to more fully reflect the important content in the associated sections of the chapters.

New **Building Intuition boxes** have been added where appropriate, and existing Building Intuition boxes have been edited to ensure clarity.

All **Learning by Doing Applications** have been reviewed and, where appropriate, updated or replaced.

All **Decision-Making Examples** have been reviewed and updated where necessary.

The **Summary of Learning Objectives** and **Key Equations** at the end of each chapter have been updated to reflect changes in the chapter text and to improve the pedagogical value of these features.

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In Digital Engagement

Adaptive Assignments, powered by Knewton, support instructors defining assignments by intent, and students to learn course concepts efficiently so they can succeed in their course and beyond. By continuously adapting to each student's needs and providing achievable goals with just-in-time instruction, Adaptive Assignments close knowledge gaps to accelerate learning.

Chapter 0 now includes Accounting Review sections to support students needing a review of accounting concepts and skills applicable to the corporate finance course.

The **Before You Go On** questions included at the end of each textbook section are now also available to instructors as assignable questions in the Wiley course, to provide instructors another way to incentivize student practice and engagement with the textbook content.

Gradable Excel Questions for selected end-of-chapter homework questions are available for instructors to assign in order to facilitate student practice of Excel skills in the context of solving finance questions. Students must correctly apply both knowledge of finance and the requested Excel function(s) for their work to be graded as correct.

Refined and Extended Problem Sets

We have carefully edited the end-of-chapter questions and problems throughout the book to ensure that the examples are current and clearly presented. New Self-Study Problems, Discussion Questions, and Questions and Problems have been added to ensure appropriate coverage of key concepts at all levels of difficulty. The total number of end-of-chapter questions and problems, including self-study problems and self-test questions, for the entire text has increased to 1,200. All end-of-chapter assessments are available in the Wiley Course for instructors to assign, and are autogradable and have algorithmically changing values whenever possible to support student practice and integrity.

An Emphasis on Digital Engagement

Fundamentals of Corporate Finance, Fifth Edition, is completely integrated with Wiley Course Resources, featuring a suite of teaching and learning resources developed under the close review of the authors. Driven by the same basic beliefs as the textbook, Wiley Course Resources allows students to assess their progress along the way, and access the content and resources needed to master the material. Wiley Course Resources provides immediate insight to student strengths and problem areas.

Many dynamic resources are integrated into the course to help students build their knowledge and understanding, stay motivated, and prepare for decision making in a real-world context. Additional features of the Wiley Course Resources include:

Adaptive Assignments, powered by Knewton, provide a targeted, actionable approach to personalized learning. The assignments quickly and continuously identify each

individual student's unique learning needs (with no need for a diagnostic) and adapt to what they know, providing just-in-time support, including targeted instruction, refresher questions, and answer explanations to fill gaps.

Online Assessments: All end-of-chapter assessments are available in the Wiley Course for instructors to assign, and are autogradable and have algorithmically changing values whenever possible to support student practice and integrity.

Narrated Presentation Videos: For every section in the textbook, narrated presentation videos with a corporate finance instructor talking through the PowerPoint slides provide support for online courses, flipped classrooms, and student study and review.

Chapter 0 Math Skills and Accounting Review offers students adaptive review and practice for essential math and accounting topics necessary to master Corporate Finance. Built to serve as a refresher of remedial content, this chapter includes reading content, algorithmic practice, and **Figuring Finance Interactive Tutorials** built to improve student retention and help connect difficult math and finance concepts.

Learning by Doing Interactive Tutorials related to selected Learning by Doing problems from the textbook provide students an alternative learning style presentation, with voice narration, an opportunity solve and submit answers to the question(s) for immediate feedback, and step-by-step solutions to help students better understand how to apply their intuition and analytical skills to solve problems. Selected Tutorials also include a financial calculator solution demonstration.

Solution Walkthrough Videos include the authors and other instructors working through selected end-of-chapter problems, providing 24/7 just-in-time homework assistance and problem-solving techniques. The videos are linked as question assistance within the applicable autogradable end-of-chapter questions available for instructors to assign in the Wiley course, and are also included in Wiley Course Resources for direct access. Solution methods demonstrated include algebraic, financial calculator, and Excel, with some videos including multiple methods. Filters within Wiley Course Resources support instructors and students locating the videos that include Excel and Financial Calculator demonstration.

Excel Templates for selected end-of-chapter problems provide students a model of best practices for setting up problems in Excel and applying Excel functions to solve problems in the context of corporate finance. Solution Walkthrough Videos related to the Excel Templates provide additional support on how to set up problems in Excel to solve corporate finance problems.

Gradable Excel Questions, available for selected end-of-chapter homework questions, supply autogradable Excel questions to help instructors facilitate student practice of Excel skills in the context of solving finance questions. Students must correctly apply both knowledge of finance and the requested Excel function(s) for their work to be graded as correct.

Acknowledgments

The nearly 400 colleagues listed below provided valuable feedback during the development process and added greatly to the content and pedagogy of the program. Their commitment to teaching and willingness to become involved in such a project was a source of inspiration to the authors. We would like to acknowledge the contribution made by the following professors whose thoughtful comments contributed to the quality, relevancy, and accuracy of the Parrino Corporate Finance program.

Reviewers

Saul Adelman, Miami University
Kenneth Ahern, University of Southern California
Evrin Akdogu, Koç University
Kofi Amoateng, North Carolina Central University
Esther Ancel, University of Wisconsin—Milwaukee
Kavous Ardalan, Marist College
Ronald Anderson, Temple University
Michael Anderson, University of Mass-Dartmouth
Michael Andrews, Roosevelt University
Gene Andrusco, California State University San Bernardino
Bala Arshanapalli, Indiana University Northwest
Saul Auslander, Bridgewater State College
Sung C. Bae, Bowling Green State University
Alan Bailey, University of Texas San Antonio
Robert Balik, Western Michigan University
John Banko, University of Florida
Babu Baradwaj, Towson University
Nina Baranchuk, University of Texas at Dallas
Karen Barnhart, Missouri State University
Janet Bartholow, Kent State University
John Becker-Blease, Washington State University
Basma Bekdache, Wayne State University
Omar Benkato, Ball State University
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William Chittenden, Texas State University
Tarun Chordia, Emory University
Ting-Heng Chu, East Tennessee State University
Cetin Ciner, University of North Carolina at Wilmington
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Amadeu DaSilva, California State University, Fullerton
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John Dexter, Northwood University
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Matthew Hood, University of Southern Mississippi
James Howard, University of Maryland University College
Emily Huang, California State University, Chico
Jian Huang, Towson University
Christy Huebner Caridi, Marist College

xx ACKNOWLEDGMENTS

Stephen Huffman, University of Wisconsin Oshkosh
Rob Hull, Washburn University
Kenneth Hunsader, University of South Alabama
Jae-Kwang Hwang, Virginia State University
Zahid Iqbal, Texas Southern University
Jide Iwawere, Howard University
Subramanian Iyer, University of New Mexico
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Jerry Leabman, Bentley College
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Alice Lee, San Francisco State University
Cheng Few Lee, Rutgers University
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Richard Lee, Barton College
Canlin Li, The Federal Reserve System
Mingsheng Li, Bowling Green State University
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James Pandjiris, University of Missouri at St. Louis
Nick Panepinto, Flagler College
Coleen Pantalone, Northeastern University
Robert Pavlik, Elon University
Ivelina Pavlova, University of Houston, Clear Lake,
Anil Pawar, San Diego State University
Janet Payne, Texas State University
Chien-Chih Peng, Morehead State University
G. Michael Phillips, California State University Northridge
James Philpot, Missouri State University
Greg Pierce, Pennsylvania State University
Steve Pilloff, George Mason University
Wendy Pirie, CFA Institute
Tony Plath, University of North Carolina, Charlotte
Vassilis Polimenis, Aristotle University of Thessaloniki
Richard Ponarul, California State University, Chico
Percy Poon, University of Nevada Las Vegas
Terry Pope, Abilene Christian University
Gary Powell, Queens University of Charlotte
Richard Powell, Villanova University
Dev Prasad, University of Massachusetts Lowell
Rose Prasad, Central Michigan University
Shoba Prekumar, Iowa State University
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Russell B. Raimer, Cleveland State University
S. Rao, University of Louisiana at Lafayette
Vadhindran K. Rao, Metropolitan State University
Thomas Rearick, Indiana University
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Salil Sarkar, University of Texas Arlington

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 Yan (Alice) Xie, University of Michigan Dearborn
 Devrim Yaman, Western Michigan University

Hua Yang, Old Dominion University
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 Jasmine Yur-Austin, California State University, Long Beach
 David Zhang, Arizona State University West
 Ge Zhang, William Patterson University
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 Kermit C. Zieg, Florida Institute of Technology

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 Hong-Jen Lin, Brooklyn College
 Robert Lutz, University of Utah
 Brian A. Maris, Northern Arizona University
 Suzan Murphy, University of Tennessee
 S. P. UMA Rao, University of Louisiana at Lafayette
 Luis Rivera, Arcadia University
 David Rystrom, Western Washington University
 Murray Sabrin, Ramapo College
 Michael Sullivan, University of Nevada at Las Vegas

Chu-Sheng Tai, Texas Southern University
 Thomas Tallerico, Stony Brook University
 Diana Tempski, University of Wisconsin, La Crosse
 Jonathan Wagoner, Fairmont State College

Accuracy Checkers

Tom Arnold, University of Richmond
 Robert J. Balik, Western Michigan University
 Babu Baradwaj, Towson University
 Deb Bauer, University of Oregon
 Dalton Bigbee, Northeastern State University
 Deanne Butchey, Florida International University
 Julie Dahlquist, Texas Christian University
 Jim P. DeMello, Western Michigan University
 Sharon Garrison, University of Arizona
 James Hilliard, Northern Arizona University
 Samira Hussein, Johnson County Community College
 Sanjay Jain, Salem State University
 Benjamas Jirasakuldech, Slipper Rock University
 Inayat U. Mangla, Western Michigan University
 Dianne Morrison, University of Wisconsin
 Jill Misuraca, University of Tampa
 Napoleon Overton, University of Memphis
 Craig A. Peterson, Western Michigan University
 James Philpot, Missouri State University
 Andrew Prevost, University of Vermont
 Mary Lou Poloskey, The University of Texas at Austin
 Judith Swisher, Western Michigan University
 Alex Tan, University of Tampa
 Diane Tanner, University of North Florida
 Rhonda Tenkku, University of Missouri

The following people developed and revised valuable student and instructor resources and made tremendous contributions to the Wiley Course Resources:

Tom Arnold, University of Richmond
 Babu Baradwaj, Towson University
 Charles Beauchamp, Middle Tennessee State University
 Kristine Beck, California State University, Northridge
 Brian Boscaljon, Penn State University — Erie
 Deanne Butchey, Florida International University
 Michael Carter, University of North Texas, Dallas
 James DeMello, Western Michigan University
 Larry Devan, Hood College
 James Dow, California State University, Northridge
 Daniel Gibbons, Waubensee Community College
 Jennifer Harris, DeVry University
 James Hilliard, Northern Arizona University
 Lori Jackson, Michigan State University
 Benjamas Jirasakuldech, Slippery Rock University
 James Keys, Florida International University
 Patrick Lach, Eastern Illinois University
 Pamela LaBorde, Western Washington University
 Wendell Licon, Arizona State University
 Steven Lifland, High Point University
 Bridget Lyons, Sacred Heart University
 Dianne Morrison, University of Wisconsin, La Crosse
 G. Michael Phillips, California State University, Northridge
 Mary Lou Poloskey, The University of Texas at Austin
 Andrew Prevost, University of Vermont
 Timothy Sargent, California State University, Northridge
 Mary Jane Sterling, Bradley University

Diane Tanner, University of North Florida
 Philip Thames, California State University, Long Beach
 Susan White, University of Maryland
 Devrim Yaman, Western Michigan University
 Lori Zaher, Bucks County Community College

Contributor Team

We owe a special thanks to members of the contributor team for their hard work, exceptional creativity, consummate communications skills, and advice: Dr. Babu Baradwaj of Towson State University and Dr. Wendell Licon of Arizona State University, who contributed significantly to the Instructor's Manual and major sections of the end-of-chapter materials for the First Edition. Dr. Norm Bowie of the University of Minnesota wrote a number of the ethics cases.

Publishing Team

We also thank the Wiley publishing team for always being calm, supportive, and gracious under fire as we suffered the travails of college textbook writing and revising, where deadlines are always yesterday. Those showing extraordinary patience and support include Michael McDonald, Director of Accounting and Finance. Those warranting special praise are Courtney Jordan, Editor; Jenny Welter, Senior Course Content Developer; and the Wiley sales force for their creativity and success in selling our book.

Colleagues

Robert Parrino would also like to thank some of his colleagues for their inspiration and helpful discussions. Among those who have significantly influenced this book are Robert Bruner of University of Virginia, Jay Hartzell of University of Texas at Austin, and Mark Huson of University of Alberta. Special thanks are owed to Clifford Smith, of University of Rochester, whose classes helped Dr. Parrino make sense of finance. In addition, recognition should go to Michael J. Barclay, who inspired generations of students through his selfless support and example and who was both a great researcher and teacher.

Thomas Bates would like to thank the professors, co-authors, and colleagues who have made him a better scholar and educator, including Robert Williams, who first introduced him to the analytical elegance of economics, and Kenneth Lehn, who inspired him to pursue excellence in research and teaching in the field of finance.

Stuart Gillan would like to thank his professors and classmates at the University of Texas at Austin (for sharing the journey through the PhD program) and to the many friends, colleagues, mentors, and students who have helped him become a better researcher and teacher. A special thanks to his dissertation chair, Laura T. Starks.

David Kidwell (1940-2019) would like to thank some of his former professors and colleagues for their inspiration and willingness to share their intellectual capital: George Kaufman and Michael Hopewell, who contributed to Dr. Kidwell's knowledge of economics and finance and were critical professors during his doctoral program at the University of Oregon; Richard West, former dean and professor at the University of Oregon, who unlocked the secrets of research and inspired Dr. Kidwell's love of teaching and scholarship; Robert Johnson of Purdue University, whose dignity and academic bearing served as an academic role model and whose love of teaching and research inspired Dr. Kidwell to follow in his footsteps and to write this book; David Blackwell of Texas A&M University, who helped conceptualize the idea for the book and contributed numerous insights to various chapters during the book's writing; and finally, John Harbell and Jonas Mittelman of San Francisco State University, who started Dr. Kidwell on his academic journey.

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APPENDIX A Future Value and Present Value Tables A-1**APPENDIX B Solutions to Odd Problems B-1****APPENDIX C The 2017 Tax Cuts and Jobs Act: Implications for Cash Flow to Investors, the Cost of Capital, and Capital Structure C-1****GLOSSARY G-1****SUBJECT INDEX I-1****COMPANY INDEX I-19**

Preface

We have written *Fundamentals of Corporate Finance* for use in an introductory course in corporate finance at the undergraduate level. It is also suitable for advanced undergraduate, executive development, and traditional or executive MBA courses when supplemented with cases and outside readings. The main chapters in the book assume that students are well-versed in algebra and that they have taken courses in principles of economics and financial accounting. Optional chapters covering important economic and financial accounting concepts are included for students and instructors seeking such coverage.

Balance Between Conceptual Understanding and Computational Skills

We wrote this corporate finance text for one very important reason. We want to provide students and instructors with a book that strikes the best possible balance between helping students develop an intuitive understanding of key financial concepts and providing them with problem-solving and decision-making skills. In our experience, teaching students at all levels and across a range of business schools, we have found that students who understand the intuition underlying the basic concepts of finance are better able to develop the critical judgment necessary to apply financial tools to a broad range of real-world situations. An introductory corporate finance course should provide students with a strong understanding of both the concepts and tools that will help them in their subsequent business studies and their personal and professional lives.

Market research supports our view. Many faculty members who teach the introductory corporate finance course to undergraduates want a book that bridges the gap between conceptually-focused and computationally-focused books. This text is designed with that need in mind. Specifically, it develops the fundamental concepts underlying corporate finance in an intuitive manner while maintaining a strong emphasis on developing computational skills. This text also takes the students one step further by emphasizing the use of intuition and analytical skills in decision making.

Our ultimate goal has been to write a book and develop learning tools that help our colleagues succeed in the classroom—materials that are genuinely helpful in the learning process. Our book offers a level of rigor that is appropriate for finance majors and yet presents the content in a manner that both finance and non-finance students find accessible and want to read. Writing a book that is both *rigorous* and *accessible* has been one of our key objectives, and both faculty and student reviews of the previous editions suggest that we have met this mark.

Our text offers a number of solutions to many of the challenges facing finance faculty who are asked to teach ever-increasing numbers of students with limited resources. Faculty members need a book and ancillary learning tools that help them effectively leverage their time. The organization of this book, the associated learning materials, and Wiley's innovative online platform provide this leverage. In addition to providing a home for the eTextbook, Wiley offers instructors a number of unique online resources for student problem solving, testing, and supplemental materials, all on a platform that easily integrates with leading learning management systems.

A Focus on Value Creation

This book is more than a collection of ideas, equations, and chapters. It has an important integrating theme—that of value creation. This theme, which is carried throughout the book, provides a framework that helps students understand the relations between the various concepts covered in the book and makes it easier for them to learn these concepts.

The concept of value creation is the most fundamental notion in corporate finance. It is in stockholders' best interests for value maximization to be at the heart of the financial decisions made within the firm. Thus, it is critical that students be able to analyze and make business decisions with a focus on value creation. The concept of value creation is introduced in the first chapter of the book and is further developed and applied throughout the remaining chapters.

The theme of value creation is operationalized through the net present value (NPV) concept. Once students grasp the fundamental idea that financial decision makers should only choose courses of action whose benefits exceed their costs, analysis and decision making using the NPV concept becomes second nature. By helping students better understand the economic rationale for a decision from the outset, rather than initially focusing on computational skills, our text keeps students focused on the true purpose of the calculations and the decision at hand.

Integrated Approach: Intuition, Analysis, and Decision Making

To support the focus on value creation, we have emphasized three things: (1) providing an intuitive framework for understanding fundamental finance concepts, (2) teaching students how to analyze and solve finance problems, and (3) helping students develop the ability to use the results from their analyses to make good financial decisions.

1. **An Intuitive Approach:** We believe that explaining finance concepts in an intuitive context helps students develop a richer understanding of those concepts and gain better insights into how finance problems can be approached. It is our experience that students who have a strong conceptual understanding of financial theory better understand how things really work and are better problem solvers and decision makers than students who focus primarily on computational skills.
2. **Analysis and Problem Solving:** With a strong understanding of the basic principles of finance, students are equipped to tackle a wide range of financial problems.

In addition to the many numerical examples that are solved in the text of each chapter, this book has 1,200 end-of-chapter homework and review problems that have been written with Bloom's Taxonomy in mind. Solutions for these problems are provided in the Instructor's Manual. We strive to help students acquire the ability to analyze and solve finance problems.

3. **Decision Making:** Our ultimate goal is to prepare students to make sound financial decisions in practice. To help students develop these skills, throughout the text we illustrate how the results from financial analyses are used in decision making.

The Financial Manager and the Firm



Julio Ricco/Shutterstock.com

LEARNING OBJECTIVES

1. Identify the key financial decisions facing the financial manager of any business.
2. Identify common forms of business organization in the United States and their respective strengths and weaknesses.
3. Describe the typical organization of the financial function in a large corporation.
4. Explain why maximizing the value of the firm's stock is the appropriate goal for management.
5. Discuss how agency conflicts affect the goal of maximizing stockholder value.
6. Explain why ethics is an important topic in the study of corporate finance.

In July of 2020, Uber Technologies, Inc. (Uber) entered into an agreement for a \$2.65 billion deal to acquire the delivery service Postmates. Why did Uber's management decide to purchase Postmates, and how did the Uber and Postmates management teams agree on the \$2.65 billion price tag?

In a press release related to the deal, Postmates co-founder and CEO Bastian Lehmann stated that "Over the past eight years we have been focused on a single mission: enable anyone to have anything delivered to them on-demand. Joining forces with Uber will continue that mission as we continue to build Postmates while creating an even stronger platform that brings this mission to life for our customers." In the same press release, Uber CEO Dara Khosrowshahi noted that "Uber and Postmates have long shared a belief that platforms like ours can power much more than just food delivery—they can be a hugely important part of local commerce and communities, all the more important during crises like COVID-19."

Analysts noted the potential for the combination to create value for the shareholders of Uber. Postmates services are complementary to those of Uber Eats, with differentiated geographic coverage and customer demographics. More notably, Postmates is a pioneer of "delivery-as-a-service," which would complement Uber's growing efforts in the delivery of groceries, essentials, and other goods. Of course, none of the potential benefits are sure to be realized in the future. For example, Uber Eats faces stiff competition in its food delivery services from a number of competitors, including Grubhub, which itself was acquired in April of 2020 for \$7.3 billion by the European service Just Eat Takeaway.

The managers of companies like Uber and Postmates use many of the concepts covered in this chapter and throughout this book to create the most value possible for their investors. Managers can create value by buying companies only when the expected benefit of doing so exceeds the cost of the acquisition. This involves managing the assets of the company as

efficiently as possible, and financing companies with the least expensive combination of debt and equity. This chapter introduces you to the key decisions facing financial managers, and the remainder of the book fills in many of the details of how these decisions are made.

Chapter Preview

This book provides an introduction to corporate finance. In it we focus on the responsibilities of the financial manager, who oversees the accounting and treasury functions and sets the overall financial strategy for the firm. We pay special attention to the financial manager's role as a decision maker. To that end, we emphasize the mastery of fundamental financial concepts and tools that are used to make sound financial decisions that create value for stockholders. These financial concepts and tools apply not only to business organizations but also to other venues, such as government entities, not-for-profit organizations, and sometimes even our own personal finances.

We begin this chapter by discussing the three major types of decisions that a financial manager makes. We then describe common forms of business organization. After next discussing the major responsibilities of the financial manager, we explain why maximizing the value of the firm's stock is an appropriate goal for a financial manager. We go on to describe the conflicts of interest that can arise between stockholders and managers and the mechanisms that help align the interests of these two groups. Finally, we discuss the importance of ethical conduct in business.

1.1 The Role of the Financial Manager

LEARNING OBJECTIVE

1. Identify the key financial decisions facing the financial manager of any business.

wealth the economic value of the assets someone possesses

The financial manager is responsible for making decisions that are in the best interests of the firm's owners, whether the firm is a start-up business with a single owner or a billion-dollar corporation owned by thousands of stockholders. The decisions made by the financial manager or owner should be one and the same. In most situations this means that the financial manager should make decisions that maximize the value of the owners' stock. This helps maximize the owners' **wealth**, which is the economic value of the assets the owner possesses. Our underlying assumption in this book is that most people who invest in businesses do so because they want to increase their wealth. In the following discussion, we describe the responsibilities of the financial manager in a new business in order to illustrate the types of decisions that such a manager makes.

Stakeholders

stakeholder anyone other than an owner (stockholder) with a claim on the cash flows of a firm, including employees, suppliers, creditors, and the government

Before we discuss the new business, you may want to look at **Exhibit 1.1**, which shows the cash flows between a firm and its owners (in a corporation, the stockholders) and various stakeholders. A **stakeholder** is someone other than an owner who has a claim on the cash flows of the firm. Stakeholders include *managers*, who want to be paid salaries and performance bonuses; *other employees*, who want to be paid wages; *suppliers*, who want to be paid for goods or services they provide; *creditors*, who want to be paid interest and principal; and the *government*, which wants the firm to pay taxes. Stakeholders may have interests that differ from those of the owners. When this is the case, they may exert pressure on management to make decisions that benefit them. We will return to these types of conflicts of interest later in the book. For now, though, we are primarily concerned with the overall flow of cash between the firm and its stockholders and stakeholders.

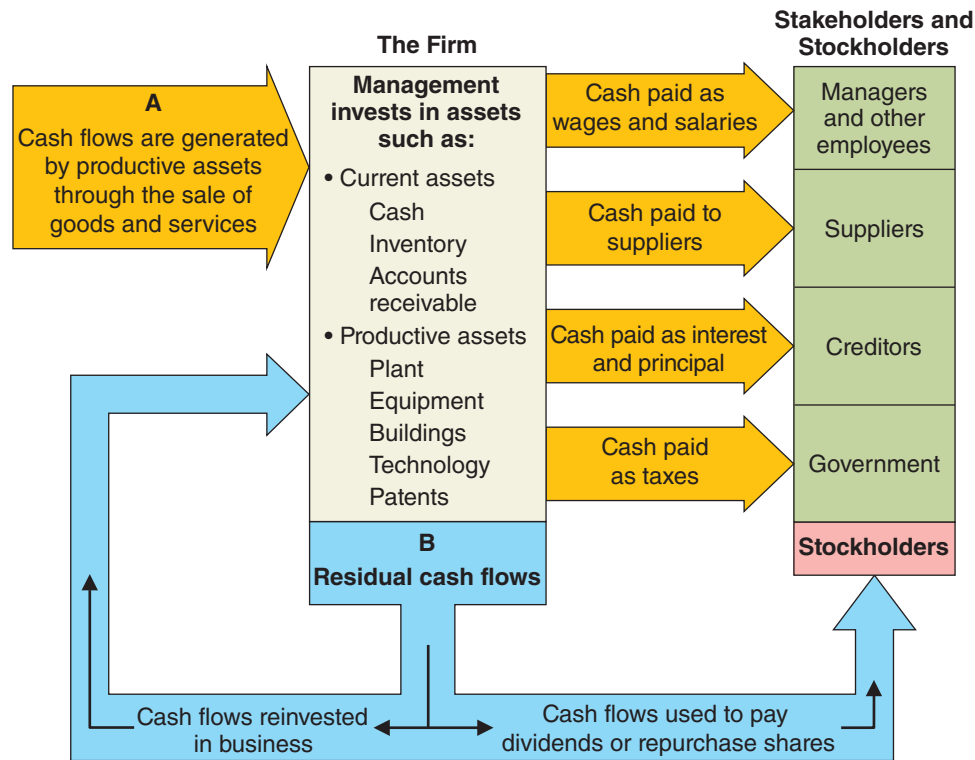


EXHIBIT 1.1 Cash Flows Between the Firm and Its Stakeholders and Owners (Stockholders)

A. Making business decisions is all about cash flows, because only cash can be used to pay bills and buy new assets. Cash initially flows into the firm as a result of the sale of goods or services. These cash inflows are used in a number of ways: to pay wages and salaries, to buy supplies, to repay creditors, and to pay taxes.

B. Any cash that is left over (residual cash flows) can be reinvested in the business or paid as dividends to stockholders or used to repurchase shares.

It's All About Cash Flows

To produce its products or services, a firm needs to acquire a variety of assets. Most will be long-term assets, which are also known as **productive assets**. Productive assets can be tangible assets, such as equipment, machinery, or a manufacturing facility, or intangible assets, such as patents, trademarks, technical expertise, or other types of intellectual capital. Regardless of the type of asset, the firm tries to select assets that will generate the greatest cash flows for the firm's owners. The decision-making process through which the firm purchases productive assets is called *capital budgeting*, and it is one of the most important decision processes in a firm.

Once the managers of a firm have selected the firm's productive assets, they must raise money to pay for them. *Financing decisions* determine the ways in which firms obtain and manage long-term financing to acquire and support their productive assets. There are two basic sources of funds: debt and equity. Every firm has some equity because equity represents ownership in the firm. It consists of capital contributions by the owners plus cash flows that have been reinvested in the firm. In addition, most firms borrow from a bank or issue some type of long-term debt to finance productive assets.

After the productive assets have been purchased and the business is operating, the managers of the firm will try to produce products at the lowest possible cost while maintaining quality. This means buying raw materials at the lowest possible cost, holding production and labor costs down, keeping management and administrative costs to a minimum, and seeing that shipping and delivery costs are competitive. In addition, day-to-day finances must be managed so that the firm will have sufficient cash on hand to pay salaries, purchase supplies, maintain inventories, pay taxes, and cover the myriad of other expenses necessary to run a

productive assets the long-term tangible and intangible assets a firm uses to generate cash flows

residual cash flows the cash remaining after a firm has paid operating expenses and what it owes creditors and in taxes; can be distributed to the owners as a cash dividend or by repurchasing some shares, or reinvested in the business

business. The management of current assets, such as money owed by customers who purchase on credit, inventory, and current liabilities, such as money owed to suppliers, is called *working capital management*.¹

A firm generates cash flows by selling the goods and services it produces. A firm is successful when these cash inflows exceed the cash outflows needed to pay operating expenses, creditors, and taxes. After meeting these obligations, managers of the firm can distribute the remaining cash, called **residual cash flows**, to the owners as a cash dividend or by repurchasing

some shares, or reinvest the cash in the business. The reinvestment of residual cash flows in the business to buy more productive assets is a very important concept. If these funds are invested wisely, they provide the foundation for the firm to grow and provide larger residual cash flows in the future for the owners. The reinvestment of cash flows (earnings) is the most fundamental way that businesses grow in size. Exhibit 1.1 illustrates how the revenue generated by productive assets ultimately becomes residual cash flows.

A firm is unprofitable when it fails to generate sufficient cash inflows to pay operating expenses, creditors, and taxes. Firms that are unprofitable over time will be forced into **bankruptcy** by their creditors if the owners do not shut them down first. In bankruptcy the company will be reorganized or the company's assets will be liquidated, whichever is more valuable. If the company is liquidated, creditors are paid in a priority order according to the structure of the firm's financial

contracts and prevailing bankruptcy law. If anything is left after all creditor and tax claims have been satisfied, which usually does not happen, the remaining cash, or residual value, is distributed to the owners.

bankruptcy legally declared inability of an individual or a company to pay its creditors

Building Intuition

Cash Flows Matter Most to Investors

Cash is what investors ultimately care about when making an investment. The value of any asset—a share of stock, a bond, or a business—is determined by the cash flows it is expected to generate in the future. To understand this concept, just consider how much you would pay for an asset from which you could never expect to obtain any cash flows. Buying such an asset would be like giving your money away. It would have a value of exactly zero. Conversely, as the expected cash flows from an investment increase, you would be willing to pay more and more for it.

Three Fundamental Decisions in Financial Management

Based on our discussion so far, we can see that financial managers are concerned with three fundamental decisions when running a business:

1. *Capital budgeting decisions*: Identifying the productive assets the firm should buy.
2. *Financing decisions*: Determining how the firm should finance or pay for assets.
3. *Working capital management decisions*: Determining how day-to-day financial matters should be managed so that the firm can pay its bills, and how surplus cash should be invested.

Exhibit 1.2 shows the impact of each decision on the firm's balance sheet. We briefly introduce each decision here and discuss them in greater detail in later chapters.

Capital Budgeting Decisions

A firm's capital budget is simply a list of the productive (capital) assets that management wants to purchase over a budget cycle, typically one year. The capital budgeting decision process addresses which productive assets the firm should purchase and how much money the firm can afford to spend. As shown in Exhibit 1.2, capital budgeting decisions affect the asset side of the balance sheet and are concerned with a firm's long-term investments. Capital budgeting decisions, as we mentioned earlier, are among management's most important decisions. Over the long run, they have a large impact on the firm's success or failure. The reason is twofold. First, capital (productive) assets generate most of the cash flows for the firm. Second,

¹ From accounting, *current assets* are assets that will be converted into cash within one year, and *current liabilities* are liabilities that must be paid within one year.

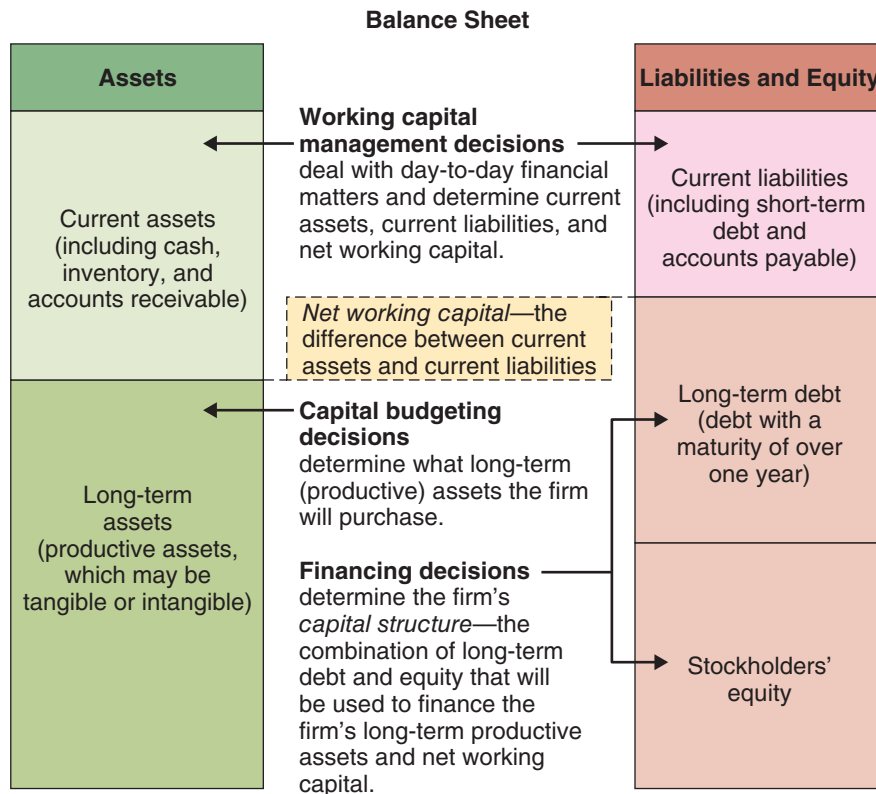


EXHIBIT 1.2 How the Financial Manager's Decisions Affect the Balance Sheet

Financial managers are concerned with three fundamental types of decisions: capital budgeting decisions, financing decisions, and working capital management decisions. Each type of decision has a direct and important effect on the firm's balance sheet and, ultimately, the success or failure of the firm.

capital assets are long term in nature. Once they are purchased, the firm owns them for a long time, and they may be hard to sell without taking a financial loss.

The fundamental question in capital budgeting is this: Which productive assets should the firm purchase? A capital budgeting decision may be as simple as a movie theater's decision to buy a popcorn machine or as complicated as Boeing's decision to invest more than \$6 billion to design and build the 787 Dreamliner passenger jet. Capital investments may also involve the purchase of an entire business, such as Fintech giant Intuit's acquisition of the consumer technology company Credit Karma for approximately \$7.1 billion.

Regardless of the project, a good investment is one in which the benefits are worth more to the firm than the costs of the asset. For example, in February 2020 Morgan Stanley agreed to pay \$13 billion to acquire E*TRADE. The acquisition of E*TRADE would give Morgan Stanley access to E*TRADE's more than 5.2 million retail client accounts with over \$360 billion in assets invested, complementing its existing wealth management business. Presumably, Morgan Stanley expects that the investment will produce a stream of future cash flows worth more than the \$13 billion it agreed to pay. Suppose that Morgan Stanley estimates that in terms of the current market value, the future cash flows it can generate from E*TRADE's client accounts are worth about \$17 billion. Is the purchase a good deal for Morgan Stanley? The answer is yes because the value of the expected cash flow benefits from the purchase exceeds the cost by \$4 billion (\$17 billion – \$13 billion = \$4 billion). If the purchase of E*TRADE works out as planned, the value of Morgan Stanley will increase by \$4 billion!

Not all investment decisions are successful. Just open the business section of any newspaper on any day, and you will find stories of bad decisions. For example, Universal Pictures'

Building Intuition

Sound Investments Are Those Where the Value of the Benefits Exceeds Their Cost

Financial managers should invest in a capital project only if the value of its future cash flows exceeds the cost of the project (benefits > cost). Such investments increase the value of the firm and thus increase stockholders' (owners') wealth. This rule holds whether you're making the decision to purchase new machinery, build a new plant, or buy an entire business.

2019 CGI movie *Cats* reportedly cost over \$100 million in production and advertising expenses, but made only \$10.9 million in worldwide box office receipts. Even with sales of future streaming rights, the overall cash flows for the movie will not come close to covering its up-front costs.

Financing Decisions

Financing decisions determine how firms raise cash to pay for their investments, as shown in Exhibit 1.2. Productive assets, which are long term in nature, are financed by long-term borrowing, equity investment, or both. Financing decisions involve trade-offs between the advantages and disadvantages of these financing alternatives for the firm.

A major advantage of debt financing is that interest payments are tax deductible for many corporations. However, debt financing increases a firm's risk because it creates a contractual obligation to make periodic interest payments and, at maturity, to repay the amount that is borrowed. These obligations must be paid regardless of the firm's operating cash flow, even if the firm suffers a financial loss. If the firm fails to make payments as promised, it defaults on its debt obligation and could be forced into bankruptcy.

In contrast, equity has no maturity, and there are no guaranteed payments to equity investors. In a corporation, the board of directors has the right to decide whether dividends should be paid to stockholders. This means that if a dividend payment is reduced or omitted altogether, the firm will not be in default. Unlike interest payments, however, dividend payments to stockholders are not tax deductible.

The mix of debt and equity on the balance sheet is known as a firm's **capital structure**. The term *capital structure* is used because long-term funds are considered capital, and these funds are raised in **capital markets**—financial markets where equity and debt instruments with maturities greater than one year are traded.

Building Intuition

Financing Decisions Affect the Value of the Firm

How a firm is financed with debt and equity affects the value of the firm. The reason is that the mix between debt and equity affects the taxes the firm pays and the probability that the firm will go bankrupt. The financial manager's goal is to determine the combination of debt and equity that minimizes the cost of financing the firm.

capital structure the mix of debt and equity that is used to finance a firm

capital markets financial markets where equity and debt instruments with maturities greater than one year are traded

net working capital the dollar difference between total current assets and total current liabilities

Working Capital Management Decisions

Management must also decide how to manage the firm's current assets, such as cash, inventory, and accounts receivable, as well as its current liabilities, such as trade credit and accounts payable. The dollar difference between a firm's total current assets and its total current liabilities is called its **net working capital**, as shown in Exhibit 1.2. As mentioned earlier, working capital management is the day-to-day management of the firm's short-term assets and liabilities. The goals of managing working capital are to ensure that the firm has enough cash to pay its bills and invest any spare cash to earn interest.

The mismanagement of working capital can cause a firm to default on its debt and go into bankruptcy, even though, over the long term, the firm may be profitable. For example, a firm that makes sales to customers on credit but is not diligent about collecting the accounts receivable can quickly find itself without enough cash to pay its bills. If this condition becomes chronic, and the firm is unable to obtain alternative financing, creditors can force the firm into bankruptcy.

A firm's profitability can also be affected by its inventory level. If the firm has more inventory than it needs to meet customer demands, it has too much capital tied up in assets that are not earning cash. Conversely, if the firm holds too little inventory, it can lose sales because it does not have products to sell when customers want them. Management must therefore determine the optimal inventory level.

Before You Go On

1. What are the three basic types of financial decisions managers must make?
2. Explain why you would make an investment if the value of the expected cash flows exceeds the cost of the project.
3. Why are capital budgeting decisions among the most important decisions in the life of a firm?

1.2 Forms of Business Organization

LEARNING OBJECTIVE

2. Identify common forms of business organization in the United States and their respective strengths and weaknesses.

Firms are organized in a number of different ways in the United States. In this section we discuss some of the more common forms of organization and the factors that business owners consider when they choose which to use. **Exhibit 1.3** summarizes key characteristics of common forms of business organization.

Sole Proprietorships

A **sole proprietorship** is a business that is owned by a single person. Its life is limited to the period that the owner (proprietor) is associated with the business because there is no

sole proprietorship a business owned by a single person

EXHIBIT 1.3 Characteristics of Different Forms of Business Organization

Choosing the appropriate form of business organization is an important step in starting a business. This exhibit compares key characteristics of the most popular forms of business organization in the United States.

| | Sole Proprietorship | Partnership | | Corporation | | Limited Liability Partnership (LLP) or Company (LLC) |
|--|---------------------|--------------|-------------------------------|----------------------|----------------------|--|
| | | General | Limited | S-Corp. | C-Corp. | |
| Cost to establish | Inexpensive | More costly | More costly | More costly | More costly | More costly |
| Life of entity | Limited | Flexible | Flexible | Indefinite | Indefinite | Flexible |
| Control by founder over business decisions | Complete | Shared | Shared | Depends on ownership | Depends on ownership | Shared |
| Access to capital | Very limited | Limited | Less limited | Less limited | Excellent | Less limited |
| Cost to transfer ownership | High | High | High | High | Can be low | High |
| Separation of management and investment | No | No | Yes | Yes | Yes | Yes |
| Potential owner/manager conflicts | No | No | Some | Potentially high | Potentially high | Some |
| Ability to provide incentives to attract and retain high-quality employees | Limited | Good | Good | Good | Good | Good |
| Liability of owners | Unlimited | Unlimited | Unlimited for general partner | Limited | Limited | Limited |
| Tax treatment of income | Flow-through | Flow-through | Flow-through | Flow-through | Double tax | As elected |
| Tax deductibility of owner benefits | Limited | Limited | Limited | Limited | Less limited | Limited |

ownership interest that can be transferred to someone else—there is no stock or other such interest that can be sold. A sole proprietorship ceases to exist when the proprietor stops being involved with the business. Many small businesses in the United States are organized this way.

A sole proprietorship is the simplest and least expensive form of business to set up and is the least regulated. To start a sole proprietorship, all you have to do is obtain the business licenses required by your local and state governments.

The ownership structure of a sole proprietorship has both advantages and disadvantages. Among the advantages is the fact that the proprietor does not have to share decision making with anyone and can run the business as he or she chooses.

There are several disadvantages related to the fact that there is no stock or other ownership interest to sell to others. First, the amount of equity capital that can be raised to finance the business is limited to the owner's personal wealth. This can restrict growth for the business unless the proprietor is very wealthy. Second, it can be more costly to transfer ownership. The proprietor must sell the assets of the business directly, rather than indirectly through the sale of an ownership interest in an operating business. The business must essentially be re-established every time it is sold. Third, because the proprietor provides all of the equity capital and manages the business, there is no separation of the management and investment roles. This limits the ability of good managers to form a business if they do not also have capital to invest. Fourth, it is not possible to provide employees with compensation in the form of ownership interests, such as stock or stock options, which can motivate them to work harder.

Another disadvantage of a sole proprietorship is that proprietor faces *unlimited liability*. If someone is harmed by the business, the proprietor's liability extends beyond the money invested in the business. The proprietor can lose some or all of his or her personal wealth, too.

Finally, profits from a sole proprietorship *flow through* to the proprietor's personal tax return, meaning that the business does not pay taxes before profits are distributed to the owner. Because the business is not subject to income taxes, profits are not subject to double taxation as in a C-corporation (described later). There are limitations on tax deductions for personal expenses, such as those associated with health insurance, but the costs of these limitations are often outweighed by the benefits from the flow-through of profits in a sole proprietorship.

Partnerships

partnership two or more owners who have joined together legally to manage a business and share its profits

A **partnership** consists of two or more owners who have joined together legally to manage a business. To form a partnership, the owners (partners) enter into an agreement that details how much capital each partner will invest in the partnership, what their management roles will be, how key management decisions will be made, how the profits will be divided, and how ownership will be transferred in case of specified events, such as the retirement or death of a partner. A *general partnership* is a partnership in which all of the partners are owners of (investors in) the business and active in managing it. In contrast, a *limited partnership* has both *general partners*, who are owners and managers, and *limited partners*, who are owners but not managers.

Partnerships are more costly to form than sole proprietorships because the partners must hire an attorney to draw up and maintain the *partnership agreement*, which specifies the nature of the relationships between or among the partners. On the other hand, partnership agreements can be amended to allow for the business to continue when a partner leaves. The ability to make the life of a business independent of that of the partners makes it easier to raise capital and less costly for the partners to sell their interests at an attractive price.

Many of the other advantages and disadvantages of a general partnership are similar to those of a sole proprietorship. A key disadvantage of a *general partnership* is that, like the proprietor in a sole proprietorship, all partners have unlimited liability. This liability can be even worse than in a sole proprietorship because a general partner can be held liable for all of the partnership's debts and other obligations, regardless of what proportion of the business he or she owns or how the debt or other obligations were incurred.

The problem of unlimited liability is avoided for some partners in a *limited partnership* because limited partners can generally only lose the amount of money that they have invested

in the business. In a limited partnership, the general partners have unlimited liability and actively manage the business, while each limited partner is liable for business obligations only up to the amount of capital he or she invested in the partnership. In other words, the limited partners have **limited liability**.

limited liability a structure in which the legal liability of an investor is limited to the amount of capital invested in the business

Corporations

Most large businesses are organized as corporations. A **corporation** is a legal entity authorized under a state charter. In a legal sense, it is a “person” distinct from its owners. For example, corporations can sue and be sued, enter into contracts, borrow money, and own assets. They can also be general or limited partners in partnerships, and they can own stock in certain types of other corporations. Because a corporation is an entity that is distinct from its owners, it can have an indefinite life. Corporations hold the majority of all business assets and generate the majority of business revenues and profits in the United States. The owners of a corporation are its stockholders.

Starting a corporation is more costly than starting a sole proprietorship. For example, it requires writing articles of incorporation and by-laws that conform to the laws of the state of incorporation. These documents spell out the name of the corporation, its business purpose, its intended life span (unless explicitly stated otherwise, the life is indefinite), the amount of stock to be issued, and the number of directors and their responsibilities. Over the life of a successful business, these costs are not very important. However, to a cash-strapped entrepreneur, they can seem substantial.

On the other hand, the corporate form of organization has several advantages. For example, shares in a corporation can be sold to raise capital from investors who are not involved in the business. This can greatly increase the amount of capital that can be raised to fund the business.

Another major advantage of a corporation is that stockholders have limited liability for debts and other obligations. Owners of corporations have limited liability because corporations are *legal persons* that take actions in their own names, not in the names of individual owners.

An *S-corporation* is a form of corporation that can be used by private businesses that meet certain requirements. An S-corporation can have only one class of stock and cannot have more than one hundred stockholders or any stockholders that are corporations or nonresident alien investors. In contrast, a *C-corporation*, which is the form used by public corporations, does not face such limits.

While there are more restrictions on S-corporations, there are also advantages. Specifically, all profits earned by an S-corporation pass directly to the stockholders, just as they pass to a sole proprietor or the partners in a partnership. This means that no taxes are paid at the corporate level.

In contrast, a major disadvantage of a C-corporation is that it must pay taxes on the income it earns. If the corporation pays a cash dividend, the stockholders must also pay taxes on the dividends they receive. Thus, the owners of C-corporations are subject to double taxation—first at the corporate level and then at the personal level when they receive dividends.

Corporations can be classified as public or private. Most large companies prefer to operate as public corporations because large amounts of capital can be raised in public markets at a relatively low cost. **Public markets**, such as the New York Stock Exchange (NYSE) and NASDAQ, are regulated by the Securities and Exchange Commission (SEC).²

In contrast, **privately held**, or **closely held, corporations** are owned by a small number of investors, and their shares are not traded publicly. When a corporation is first formed, the common stock is often held by a few investors, typically the founder, a small number of key managers, and financial backers. Over time, as the company grows in size and needs larger amounts of capital, management may decide that the company should “go public” in order to gain access to the public markets.

corporation a legal entity formed and authorized under a state charter; in a legal sense, a corporation is a “person” distinct from its owners



Weblink

Visit the Web sites of the NYSE and NASDAQ at www.nyse.com and www.nasdaq.com to get more information about public market activity.

public markets markets regulated by the Securities and Exchange Commission in which securities such as stocks and bonds are publicly traded
privately held, or closely held, corporations corporations whose stock is not traded in the public markets

²We examine the public and private markets in more detail in Chapters 2 and 15.

Limited Liability Partnerships and Companies

Historically, law firms, accounting firms, investment banks, and other professional groups were organized as sole proprietorships or partnerships. For partners in these firms, all income was taxed as personal income, and general partners had unlimited liability for all debts and other obligations of the firm. It was widely believed that in professional partnerships, such as those of attorneys, accountants, or physicians, the partners should be liable individually and collectively for the professional conduct of each partner. This structure gave the partners an incentive to monitor each other's professional conduct and discipline poorly performing partners, resulting in a higher quality of service and greater professional integrity. Financially, however, misconduct by one partner could result in disaster for the entire firm. For example, a physician found guilty of malpractice exposes every partner in the medical practice to financial liability, even if the others never treated the patient in question.

In the 1980s, because of sharp increases in the number of professional malpractice cases and large damages awards in the courts, professional groups began lobbying state legislators to create hybrid forms of business organization. One such hybrid is known as a **limited liability partnership (LLP)**. An LLP combines some of the limited liability characteristics of a corporation with the tax advantage of a partnership. While liability varies from state to state, LLP partners in general have more limited liability than general partners in regular partnerships. Typically, they are not personally liable for any other partner's malpractice or professional misconduct. As in regular partnerships, income to the partners of an LLP is taxed as personal income.

A **limited liability company (LLC)** is another hybrid form of organization that is becoming increasingly common. Like LLPs, LLCs have benefited founders of many businesses that would otherwise have been organized as limited partnerships. They also provide limited liability to the people who make the business decisions in the firm while enabling all investors to retain the flow-through tax advantages of a limited partnership.

You will notice that Exhibit 1.3 indicates that the lives of partnerships, LLPs, and LLCs are flexible. This is because, while partnership, LLP, and LLC agreements can be written so that their lives are indefinite, they can also be written with a fixed life in mind. For example, private equity and venture capital limited partnerships and LLCs are typically structured so that they last only 10 years.

limited liability partnership (LLP) and **limited liability company (LLC)** hybrid business organizations that combine some of the advantages of corporations and partnerships; in general, income to the partners is taxed only as personal income, but the partners have limited liability

Before You Go On

1. Why are many businesses operated as sole proprietorships or partnerships?
2. What are some advantages and disadvantages of operating as a corporation?
3. Explain why professional partnerships such as physicians' groups organize as limited liability partnerships.

1.3

Managing the Financial Function

LEARNING OBJECTIVE

3. Describe the typical organization of the financial function in a large corporation.

As we discussed earlier, financial managers are concerned with a firm's investment, financing, and working capital management decisions. The senior financial manager holds one of the top executive positions in the firm. In a large corporation, the senior financial manager usually has the rank of vice president or senior vice president and goes by the title of **chief financial officer** or **CFO**. In smaller firms, the job tends to focus more on the accounting function, and the top financial officer may be called the controller or chief accountant. In this section we focus on the financial function in a large corporation.

chief financial officer or **CFO** the most senior financial manager in a company

Organizational Structure

Exhibit 1.4 shows a typical organizational structure for a large corporation, with special attention to the financial function. As shown, the top management position in the firm is the chief executive officer (CEO), who has the final decision-making authority among all the firm's executives. The CEO's most important responsibilities are to set the strategic direction of the firm and see that the management team executes the strategic plan. The CEO reports directly to the board of directors, which is accountable to the company's stockholders. The board's responsibility is to see that the top management makes decisions that are in the best interest of the stockholders.

The CFO reports directly to the CEO and focuses on managing all aspects of the firm's finances, as well as working closely with the CEO on strategic issues. A number of positions report directly to the CFO. In addition, the CFO often interacts with people in other functional areas on a regular basis because all senior executives are involved in financial decisions that affect the firm and their areas of responsibility.

Positions Reporting to the CFO

Exhibit 1.4 also shows the positions that typically report to the CFO in a large corporation and the activities managed in each area.

- The *treasurer* looks after the collection and disbursement of cash, investing excess cash so that it earns interest, raising new capital, handling foreign exchange transactions, and overseeing the firm's pension fund managers. The treasurer also assists the CFO in handling important Wall Street relationships, such as those with investment bankers and credit rating agencies.



Go to the Web site of CFO magazine at www.cfo.com to get a better idea of the responsibilities of a CFO.

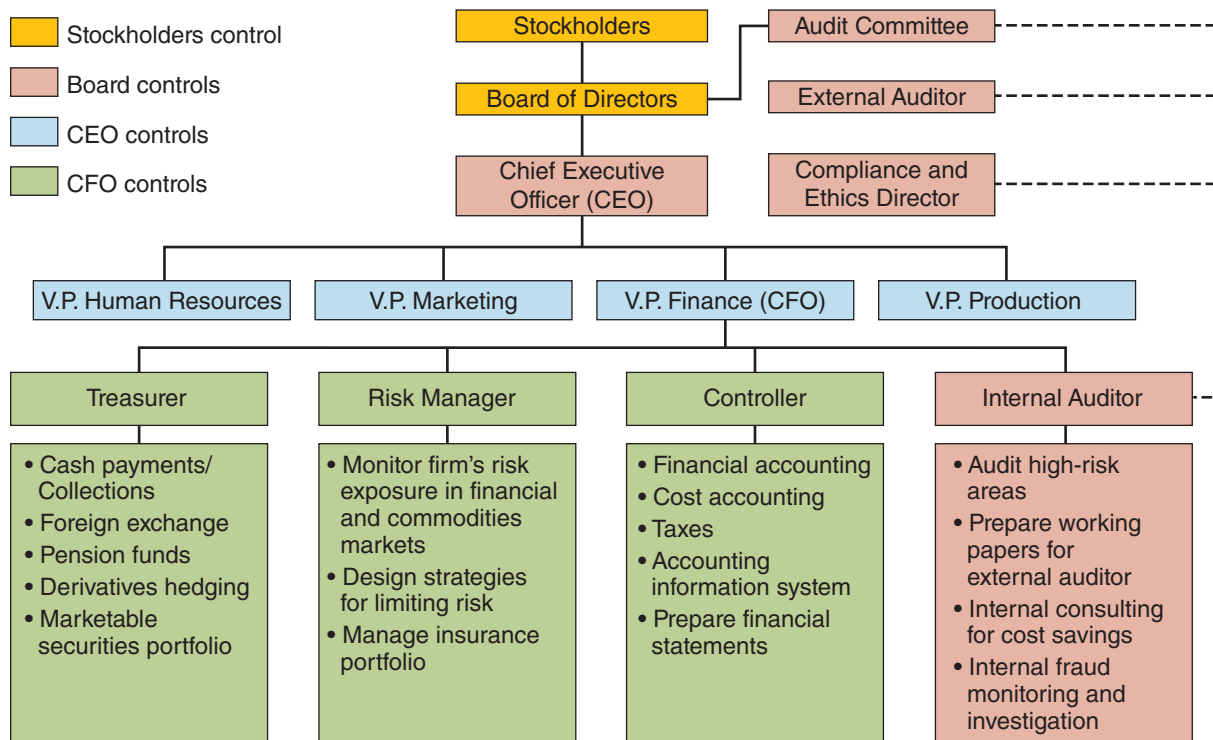


EXHIBIT 1.4 Simplified Corporate Organization Chart

The firm's top finance and accounting executive is the CFO, who reports directly to the CEO. Positions that report directly to the CFO include the treasurer, risk manager, and controller. The internal auditor reports both to the CFO and to the audit committee of the board of directors. The external auditor and the compliance and ethics director also are ultimately responsible to the audit committee.

- The *risk manager* monitors and manages the firm's risk exposure in financial and commodity markets and the firm's relationships with insurance providers.
- The *controller* is really the firm's chief accounting officer. The controller's staff prepares the financial statements, maintains the firm's financial and cost accounting systems, prepares the taxes, and works closely with the firm's external auditors.
- The *internal auditor* is responsible for identifying and assessing major risks facing the firm and performing audits in areas where the firm might incur substantial losses. The internal auditor reports to the board of directors as well as the CFO.

External Auditor

Virtually every large corporation hires a licensed certified public accounting (CPA) firm to provide an independent annual audit of the firm's financial statements. Through this audit the CPA comes to a conclusion as to whether the firm's financial statements present fairly, in all material respects, the financial position of the firm and results of its activities, or in other words, whether the financial numbers are reasonably accurate, accounting principles have been consistently applied year to year and do not significantly distort the firm's performance, and the accounting principles used conform to those generally accepted by the accounting profession. Creditors and investors require independent audits, and the SEC requires publicly traded firms to supply audited financial statements.

The Audit Committee

The audit committee, a powerful subcommittee of the board of directors, has the responsibility of overseeing the accounting function and the preparation of the firm's financial statements. In addition, the audit committee oversees or, if necessary, conducts investigations of significant fraud, theft, or malfeasance in the firm, especially if it is suspected that senior managers in the firm may be involved.

The external auditor reports directly to the audit committee to help ensure his or her independence from management. On a day-to-day basis, however, the external auditor works closely with the CFO's staff. The internal auditor also reports to the audit committee to help ensure his or her independence from management. On a day-to-day basis, however, the internal auditor, like the external auditor, works closely with the CFO staff.

The Compliance and Ethics Director

Many publicly traded companies have a compliance and ethics director who oversees three mandated programs: (1) a compliance program that ensures that the firm complies with federal and state laws and regulations, (2) an ethics program that promotes ethical conduct among executives and other employees, and (3) a compliance hotline, which must include a whistleblower program. Like the internal auditor, the compliance director reports to the audit committee to ensure independence from management, though on a day-to-day basis the director typically reports to the firm's legal counsel.

Before You Go On

1. What are the major responsibilities of the CFO?
2. Identify the financial officers who typically report to the CFO and describe their duties.
3. Why does the internal auditor report to both the CFO and the audit committee of the board of directors?

1.4 The Goal of the Firm

LEARNING OBJECTIVE

4. Explain why maximizing the value of the firm's stock is the appropriate goal for management.

For business owners, it is important to determine the appropriate goal for management decisions. Should the goal be to try to keep costs as low as possible? Or to maximize sales or market share? Or to achieve steady growth and earnings? Let's look at this fundamental question more closely.

What Should Management Maximize?

Suppose you own and manage a pizza parlor. Depending on your preferences and tolerance for risk, you can set any goal for the business that you want. For example, you might have a fear of bankruptcy and losing money. To avoid the risk of bankruptcy, you could focus on keeping your costs as low as possible, paying low wages, avoiding borrowing, advertising minimally, and remaining reluctant to expand the business. In short, you will avoid any action that increases your firm's risk. You will sleep well at night, but you may eat poorly because of meager profits.

Conversely, you could focus on maximizing market share and becoming the largest pizza business in town. Your strategy might include cutting prices to increase sales, borrowing heavily to open new pizza parlors, spending lavishly on advertising, and developing exotic menu items such as *pizza de foie gras*. In the short run, your high-risk, high-growth strategy will have you both eating poorly and sleeping poorly as you push the firm to the edge. In the long run, you will either become very rich or go bankrupt! There must be a better operational goal than either of these extremes.

Why Not Maximize Profits?

One goal for decision making that seems reasonable is *profit maximization*. After all, don't stockholders and business owners want their companies to be profitable? Although profit maximization seems a logical goal for a business, it has some serious drawbacks.

A problem with profit maximization is that it is hard to pin down what is meant by "profit." To the average businessperson, profits are just revenues minus expenses. To an accountant, however, a decision that increases profits under one set of accounting rules can reduce it under another. A second problem is that accounting profits are not necessarily the same as cash flows. For example, many firms recognize revenues at the time a sale is made, which is typically before the cash payment for the sale is received. Ultimately, the owners of a business want cash because only cash can be used to make investments or to buy goods and services.

Yet another problem with profit maximization as a goal is that it does not distinguish between getting a dollar today and getting a dollar some time in the future. In finance, the timing of cash flows is extremely important. For example, the longer you go without paying your credit card balance, the more interest you must pay the bank for the use of the money. The

Building Intuition

The Timing of Cash Flows Affects Their Value

A dollar today is worth more than a dollar in the future because if you have a dollar today, you can invest it and earn interest. For businesses, cash flows can involve large sums of money, and receiving money one day late can cost a great deal. For example, if a bank has \$100 billion of consumer loans outstanding and the average annual interest payment is 5 percent, it would cost the bank \$13.7 million if every consumer decided to make an interest payment one day later.

interest accrues because of the *time value of money*; the longer you have access to money, the more you have to pay for it. The time value of money is one of the most important concepts in finance and is the focus of Chapters 5 and 6.

Finally, profit maximization ignores the uncertainty, or risk, associated with cash flows. A basic principle of finance is that there is a trade-off between expected return and risk. When given a choice between two investments that have the same expected returns but different risk, most people choose the less risky one. This makes sense because most people do not like

Building Intuition

The Riskiness of Cash Flows Affects Their Value

A risky dollar is worth less than a safe dollar. The reason is that investors do not like risk and must be compensated for bearing it. For example, if two investments have the same expected return—say, 5 percent—most people will prefer the investment with the lower risk. Thus, the more risky an investment's cash flows, the less it is worth.

bearing risk and, as a result, must be compensated for taking it. The profit maximization goal ignores differences in value caused by differences in risk. We return to the important topics of risk, its measurement, and the trade-off between risk and return in Chapter 7. What is important at this time is that you understand that investors do not like risk and must be compensated for bearing it.

In sum, it appears that profit maximization is not an appropriate goal for a firm because the concept is difficult to define and does not directly account for the firm's cash flows. What we need is a goal that looks at a firm's cash flows and considers both their timing and their riskiness. Fortunately, we have just such a measure: the market value of the firm's stock.

Maximize the Value of the Firm's Stock

The underlying value of any asset is determined by the cash flows it is expected to generate in the future. This principle holds whether we are buying a bank certificate of deposit, a corporate bond, or an office building. Furthermore, as we will discuss in Chapter 9, when security analysts and investors on Wall Street determine the value of a firm's stock, they consider (1) the size of the expected cash flows, (2) the timing of the cash flows, and (3) the riskiness of the cash flows. Notice that the mechanism for determining stock values overcomes all the cash flow objections we raised with regard to profit maximization as a goal.

Thus, an appropriate goal for management is to maximize the current value of the firm's stock. Maximizing the value of the firm's stock is an unambiguous objective that is easy to measure for a firm whose stock is traded in a public market. We simply look at the market value of the stock online on a given day to determine the value of the stockholders' shares and whether the price went up or down. Publicly traded securities are ideally suited for this task because public markets are wholesale markets with large numbers of buyers and sellers where securities trade near their true value.

What about firms whose stock is not publicly traded, such as private corporations and partnerships? The total value of the stockholder or partner interests in such a business is equal to the value of the owner's equity. *Thus, our goal can be restated for these firms as this:*

Maximize the current value of owner's equity. The only other restriction is that the entities must be for-profit businesses.

Building Intuition

The Financial Manager's Goal Is to Maximize the Value of the Firm's Stock

The goal for financial managers is to make decisions that maximize the firm's stock price. By maximizing stock price, management will help maximize stockholders' wealth. To do this, managers must make investment and financing decisions so that the total value of cash inflows exceeds the total value of cash outflows by the greatest possible amount (benefits > costs). Notice that the focus is on maximizing the value of cash flows, not profits.

It is important to recognize that maximizing the value of stock is not inconsistent with maximizing the value of claims to the firm's other stakeholders. In maximizing the value of the stock, managers must make decisions that account for the interests of all stakeholders. Consider an instance where the managers of a firm decide to delay paying suppliers in an effort to increase the cash flows to the firm's owners. This delay is likely to be met by resistance from suppliers, who might increase the prices they charge the firm in order to offset the cost of this policy to them. In the extreme, suppliers might even stop selling their products to the firm. This notion that firms must recognize the interests of stakeholders is succinctly summarized in IBM's 2019 annual report, which states: "Our business model is built to deliver long-term value

to stakeholders.” In maximizing the value of the owner’s equity, managers must make decisions that account for the interests of all stakeholders.

Diversity, equity, and inclusion (DEI) programs in companies are an example of initiatives focused on an important class of stakeholders, the employees, with the intent to maximize stockholder value. DEI programs seek to bring people from diverse backgrounds—from the standpoint of age, gender, religion, etc.—to be part of the workplace and include them in decision-making process throughout the organization. Numerous studies suggest that diversity improves both financial performance and innovation, ultimately benefitting the corporate bottom line. For example, a recent report by McKinsey & Company noted that “Companies in the top-quartile for ethnic/cultural diversity on executive teams were 33% more likely to have industry-leading profitability.”³

Over the last decade, financial managers have also increasingly directed their attention to issues associated with the environmental, social, and governance strategies of the firm. These factors, commonly referred to as “ESG,” have drawn the attention of customers and investors alike, suggesting that they are very important determinants of the value of a company’s stock. While the concept of ESG is quite broad, many associate the term with issues of sustainability and corporate social responsibility in evaluating the impact of the firm’s operations on the broader community. In keeping with this movement, The Business Roundtable, a group of chief executive officers of nearly 200 major U.S. corporations, issued a statement in 2019 with a new definition of the “purpose of a corporation.” As part of this statement, the CEOs emphasized that the main goals of business include investing in employees, delivering value to customers, dealing ethically with suppliers, and supporting outside communities. In response to the interests of both consumers and investors, public companies often explicitly report on their ESG-related activities, and the quality of corporate ESG strategies are rated by a variety of investment advisors.



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Starbucks is very active in defining its ESG strategy and management. To view the company’s 2020 Global Social Impact Report, go to: stories.starbucks.com/stories/2021/starbucks-global-environmental-and-social-impact-report-2020/

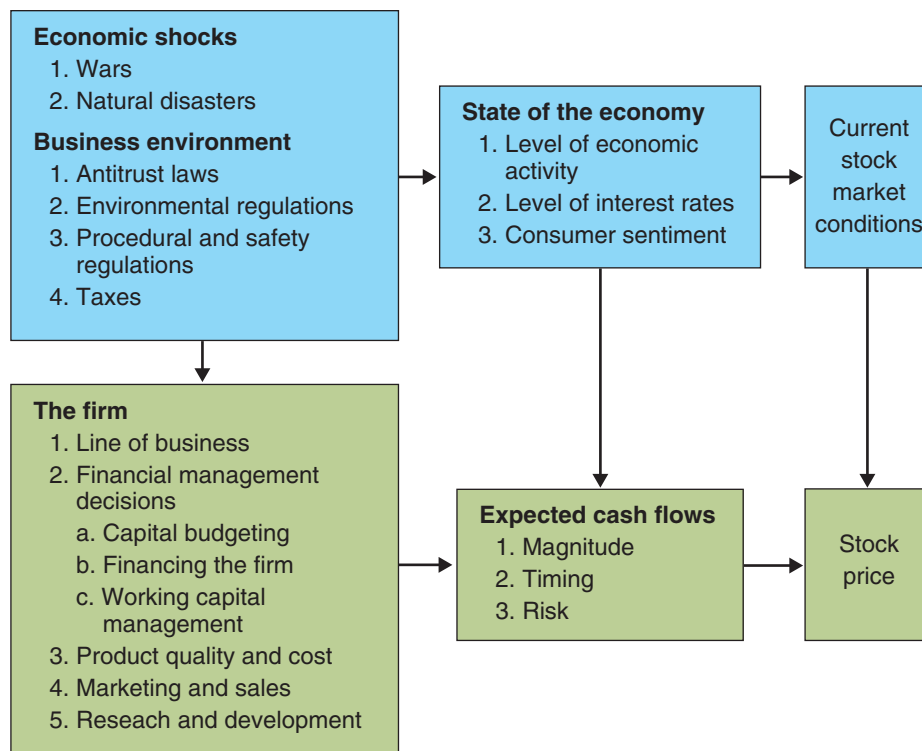
Can Management Decisions Affect Stock Prices?

An important question is whether management decisions actually affect the firm’s stock price. Fortunately, the answer is yes. As noted earlier, a basic principle in finance is that the value of an asset is determined by the future cash flows it is expected to generate. As shown in **Exhibit 1.5**, a firm’s management makes numerous decisions that affect its cash flows. For example, management decides what type of products or services to produce and what productive assets to purchase. Managers also make decisions concerning the mix of debt and equity financing the firm uses, debt collection policies, and policies for paying suppliers, to mention a few examples. In addition, cash flows are affected by how efficient management is in making products, the quality of the products, management’s sales and marketing skills, and the firm’s investment in research and development for new products. Some of these decisions affect cash flows over the long term, such as the decision to build a new plant, and other decisions have a short-term impact on cash flows, such as launching an advertising campaign. For example, on November 9, 2020, Pfizer announced a successful trial outcome tied to its experimental COVID-19 vaccine. Pfizer’s stock price increased by almost 10 percent on the day of the announcement, suggesting that the vaccine was expected to have a positive impact on the firm’s long-run cash flows.

The firm’s managers also must deal with a number of external factors over which they have little or no control, such as economic conditions (recession or expansion), war or peace, and new government regulations. External factors are constantly changing, and management must weigh the impact of these changes and adjust its strategy and decisions accordingly.

The important point here is that, over time, management makes a series of decisions when executing the firm’s strategy that affects the firm’s cash flows and, hence, the price of the firm’s stock. Firms that have a better business strategy, are more nimble, make better business decisions, and can execute their plans well will have a higher stock price than similar firms that just can’t get it right.

³www.mckinsey.com/~/media/mckinsey/business%20functions/organization/our%20insights/delivering%20through%20diversity/delivering-through-diversity_full-report.ashx

**EXHIBIT 1.5 Major Factors Affecting Stock Prices**

The firm's stock price is affected by a number of factors, and management can control only some of them. Managers exercise little control over external conditions (blue boxes), such as the state of the general economy, although they can closely observe these conditions and make appropriate changes in strategy. Managers make many other decisions that directly affect the firm's expected cash flows (green boxes)—and hence the price of the firm's stock.

Before You Go On

1. Why is profit maximization an unsatisfactory goal for managing a firm?
2. Explain why maximizing the market price of a firm's stock is an appropriate goal for the firm's management.
3. What is the fundamental determinant of an asset's value?

1.5**Agency Conflicts: Separation of Ownership and Control****LEARNING OBJECTIVE**

5. Discuss how agency conflicts affect the goal of maximizing stockholder value.

We turn next to an important issue facing stockholders of large corporations: the separation of ownership and control of the firm. In a large corporation, ownership is often spread over a large number of small stockholders who may have little control over management. Managers may therefore make decisions that benefit their own interests rather than those of the stockholders. In contrast, in smaller firms, owners and managers are usually one and the same, and there is no conflict of interest between them. As you will see, this self-interested behavior may affect the value of the firm.

Ownership and Control

To illustrate, let's continue with our pizza parlor example. As the owner of a pizza parlor, you have decided your goal is to maximize the value of the business and thereby your ownership interest. There is no conflict of interest in your dual roles as owner and manager because your personal and economic self-interest is tied to the success of the pizza parlor. The restaurant has succeeded because you have worked hard and have focused on customer satisfaction.

Now suppose you decide to hire a college student to manage the restaurant. Will the new manager always act in your interest? Or could the new manager be tempted to give free pizza to friends now and then or, after an exhausting day, leave early rather than spend time cleaning and preparing for the next day? From this example, you can see that once ownership and management are separated, managers may be tempted to pursue goals that are in their own self-interest rather than the interests of the owners.

Agency Relationships

The relationship we have just described between the pizza parlor owner and the student manager is an example of an agency relationship. An agency relationship arises whenever one party, called the *principal*, hires another party, called the *agent*, to perform some service on behalf of the principal. The relationship between stockholders and management is an agency relationship. Legally, managers (who are the agents) have a fiduciary duty to the stockholders (the principals), which means managers are obligated to put the interests of the stockholders above their own. However, in these and all other agency relationships, the potential exists for a conflict of interest between the principal and the agent. These conflicts are called **agency conflicts**.

agency conflicts conflicts of interest between a principal and an agent

Do Managers Really Want to Maximize Stock Price?

It is not difficult to see how conflicts of interest between managers and stockholders can arise in the corporate setting. In most large corporations, especially those that are publicly traded, there is a significant degree of separation between ownership and management. The largest corporations can have more than one million stockholders. As a practical matter, it is not possible for all of the stockholders to be active in the management of the firm or to individually bear the high cost of monitoring management. The bottom line is that stockholders own the corporation, but managers control the money and have the opportunity to use it for their own benefit.

How might management be tempted to indulge itself and pursue its self-interest? We need not look far for an answer to this question. Corporate excesses are common. High on the list are palatial office buildings, corporate hunting and fishing lodges in exotic places, expensive corporate jets, extravagant expense-account dinners kicked off with bottles of Dom Perignon and washed down with 1953 Margaux—and, of course, a king's compensation package.⁴ Besides economic nest feathering, corporate managers may focus on maximizing market share, their industry prestige, and their job security.

Needless to say, these types of activities and spending conflict with the goal of maximizing a firm's stock price. The costs of these activities are called **agency costs**. Agency costs are the costs incurred because of conflicts of interest between a principal and an agent. Examples are the cost of the lavish dinner mentioned earlier and the cost of a corporate jet for executives. However, not all agency costs are frivolous. The cost of hiring an external auditor to certify financial statements is also an agency cost because it is a cost that is incurred to limit actions by managers that result in agency costs.

agency costs the costs arising from conflicts of interest between a principal and an agent—for example, between a firm's owners and its managers

⁴A favorite premeal “quaffing” champagne of young investment bankers on Wall Street is Dom Perignon, known as the “Domer,” which, depending on the vintage, can cost as much as \$700 a bottle. Senior partners who are more genteel are reported to favor a 1953 Margaux, a French Bordeaux wine from Château Margaux; 1953 is considered a stellar vintage year, and Margaux 1953 is an excellent but very pricey choice (about \$2,500 per bottle in 2020).

Aligning the Interests of Managers and Stockholders

If the linkage between stockholder and manager goals is weak, a number of mechanisms can help to better align the behavior of managers with the goals of stockholders. These include (1) board of directors, (2) management compensation, (3) managerial labor market, (4) other managers, (5) large stockholders, (6) the takeover market, and (7) the legal and regulatory environment.

Board of Directors

A corporation's board of directors has a legal responsibility to represent stockholders' interests. The board's duties include hiring and firing the CEO, setting his or her compensation, and monitoring his or her performance. The board also approves major decisions concerning the firm, such as the firm's annual capital budget or the acquisition of another business. These responsibilities make the board a key mechanism for ensuring that managers' decisions are aligned with the interests of stockholders.

How well boards actually perform in this role has been questioned in recent years. As an example, critics point out that some boards are unwilling to make hard decisions such as firing the CEO when a firm performs poorly. Other people believe that a lack of independence from management is a reason that boards are not as effective as they might be. For example, the CEO often chairs the board of directors. This dual position can give the CEO undue influence over the board, as the chairperson sets the agenda for and chairs board meetings, appoints committees, and controls the flow of information to the board.

Management Compensation

The most effective means of aligning the interests of managers with those of stockholders is a well-designed compensation (pay) package that rewards managers when they do what stockholders want them to do and penalizes them when they do not. This type of plan is effective because a manager will quickly internalize the benefits and costs of making good and bad decisions and, thus, will be more likely to make the decisions that stockholders want. Therefore, there is no need for some outside monitor, such as the board of directors, to try to figure out whether the managers are making the right decisions. The information that outside monitors have is not as good as the managers' information, so these outside monitors are always at a disadvantage in trying to determine whether a manager is acting in the interest of stockholders.

Most corporations have management compensation plans that tie compensation to the performance of the firm. The idea behind these plans is that if compensation is sensitive to the performance of the firm, managers will have greater incentives to make decisions that increase the stockholders' wealth. Although these incentive plans vary widely, they usually include (1) a base salary, (2) a bonus based on accounting performance, and (3) some compensation that is tied to the firm's stock price.⁵ The base salary ensures the executive of receiving some minimum compensation as long as he or she remains with the firm, and the bonus and stock price-based compensation are designed to align the manager's incentives with those of the stockholders. The trick in designing such a program is to choose the right mix of these three components so that the manager has the right incentives and the overall package is sufficiently appealing to attract and retain high-quality managers at the lowest possible cost.

Managerial Labor Market

The managerial labor market also provides managers with incentives to act in the interests of stockholders. Firms that have a history of poor performance or a reputation for "shady operations" or unethical behavior have difficulty hiring top managerial talent. Individuals who are

⁵This component, which may include stock options, will increase and decrease with the stock price.

top performers have better alternatives than to work for such firms. Therefore, to the extent that managers want to attract high-quality people, the labor market provides incentives to run a good company.

Furthermore, studies show that executives who “manage” firms into bankruptcy or are convicted of white-collar crimes can rarely secure equivalent positions after being fired for poor performance or convicted for criminal behavior. Thus, the penalty for extremely poor performance or a criminal conviction is a significant reduction in the manager’s lifetime earnings potential. Managers know this, and the fear of such consequences helps keep them working hard and honestly.⁶

Other Managers

Competition among managers within firms also helps provide incentives for each manager to act in the interests of stockholders. Managers compete to attain the CEO position and in doing so try to attract the board of directors’ attention by acting in the stockholders’ interests. Furthermore, even when a manager becomes CEO, he or she is always looking over his or her shoulder because other managers covet that job.

Large Stockholders

All stockholders have an interest in providing managers with incentives to maximize stockholder value. However, as we noted earlier, most stockholders in large corporations own too few shares to make it worthwhile for them to actively monitor managers. Only large stockholders, those with a significant investment in the firm, have enough money at stake and enough power to make it worthwhile for them to actively monitor managers and to try to influence their decisions. For firms that are publicly traded, many of the large stockholders are institutional investors, such as mutual funds, large commercial banks, or hedge funds.

The Takeover Market

The market for takeovers provides incentives for managers to act in the interests of stockholders. When a firm performs poorly because its current managers are doing a poor job, an opportunity arises for astute investors, so-called corporate raiders, to make money by buying the company at a price that reflects its poor performance and replacing the current managers with a top-flight management team. If the investors have evaluated the situation correctly, the firm will soon be transformed into a strong performer, its stock price will increase, and investors can sell their stock for a significant profit. The possibility that a firm might be discovered by corporate raiders provides incentives for managers to perform well.

The Legal and Regulatory Environment

Finally, the laws and regulations that firms must adhere to limit the ability of managers to make decisions that harm the interests of stockholders. An example is federal and state statutes that make it illegal for managers to steal corporate assets. Similarly, regulatory reforms such as the Sarbanes-Oxley Act, discussed next, limit the ability of managers to mislead stockholders.

Sarbanes-Oxley and Other Regulatory Reforms

Managers of public firms in the United States have long been required to make audited financial statements available to investors that show how their firms have been performing, what their assets are, and how those assets have been financed. Prior to 1933, these disclosure requirements were specified by the individual states in which firms were incorporated.



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To find out more about the Sarbanes-Oxley Act, visit www.soxlaw.com.

⁶Nonquantifiable costs of convictions for crimes are the perpetrators’ personal embarrassment and the embarrassment of their families and the effect these costs may have on their lives. On average, the overall cost of such convictions is higher than even that suggested by the labor market argument.

Since the passage of the Securities Act of 1933, also known as the *Truth in Securities Act*, these requirements have been standardized throughout the country. They have evolved to the point at which financial reports must adhere to the Generally Accepted Accounting Principles (GAAP), which are discussed in Chapter 3.

With the longstanding disclosure requirements for public firms, many investors during the latter part of the 1900s were comfortable with the quality of corporate financial statements. However, a series of accounting scandals and ethical lapses by corporate officers shocked the nation in the early years of the twenty-first century. A case in point was WorldCom's bankruptcy filing in 2002 and the admission that its officers had "cooked the books" by misstating \$7.2 billion of expenses, which allowed WorldCom to report profits when the firm had actually lost money. The accounting fraud at WorldCom followed similar scandals at Enron, Global Crossing, Tyco, and elsewhere. These scandals—and the resulting losses to stockholders—led to a set of far-reaching regulatory reforms passed by Congress in 2002.⁷ The most significant reform measure to date is the Sarbanes-Oxley Act, which focuses on (1) reducing agency costs in corporations, (2) restoring ethical conduct within the business sector, and (3) improving the integrity of the accounting reporting system within firms.

Overall, these regulations require all public corporations to implement five overarching strategies. (Private corporations and partnerships are not required to implement these measures.)

1. **Ensure greater board independence.** Firms must structure their boards so that the majority of the members are outside directors. Furthermore, it is recommended that the positions of chair and CEO be separated. Finally, Sarbanes-Oxley makes it clear that board members have a fiduciary responsibility to represent and act in the interest of stockholders, and board members who fail to meet their fiduciary duty can be fined and receive jail sentences.
2. **Establish internal accounting controls.** Firms must establish internal accounting control systems to protect the integrity of the accounting systems and safeguard the firms' assets. The internal controls are intended to improve the reliability of accounting data and the quality of financial reports and to reduce the likelihood that individuals within the firm engage in accounting fraud.
3. **Establish compliance programs.** Firms must establish corporate compliance programs that ensure that they comply with important federal and state regulations. For example, a compliance program would document whether a firm's truck drivers complied with all federal and state truck and driver safety regulations, such as the number of hours one can drive during the day and the gross highway weight of the truck.
4. **Establish an ethics program.** Firms must establish ethics programs that monitor the conduct of employees and executives. Among other features, these programs must include a whistleblower protection provision. The intent is to create an ethical work environment so that employees will know what is expected of them in their relationships with customers, suppliers, and other stakeholders.
5. **Expand the audit committee's oversight powers.** The external auditor, the internal auditor, and the compliance and ethics director owe their ultimate legal responsibilities to the audit committee, not to the firm. In addition, the audit committee has the unconditional power to probe and question any person in the firm, including the CEO, regarding any matter that might materially impact the firm or its financial statements.

Exhibit 1.6 summarizes some of the regulatory requirements that are designed to reduce agency costs.

A noticeable shift has occurred in the behavior of board members and management since the Sarbanes-Oxley Act was passed. Boards appear much more serious about monitoring firms' performance and ratifying important decisions by management. Audit committees, with their new independence and investigative powers, are providing greater oversight over

⁷The major laws passed by Congress in this area in 2002 were the Public Accounting Reform and Investor Protection Act and the Sarbanes-Oxley Act.

EXHIBIT 1.6 Corporate Governance Regulations Designed to Reduce Agency Costs

These are regulatory requirements that are designed to reduce agency costs. The most important requirements resulted from the Sarbanes-Oxley Act, passed by Congress in 2002. The act was aimed at reducing agency costs, promoting ethical conduct, and improving the integrity of accounting reporting systems.

Board of Directors

- Board has a fiduciary responsibility to represent the best interest of the firm's owners.
- Majority of the board must be outside independent directors.
- Firm is required to have a code of ethics, which has to be approved by the board.
- Firm must establish an ethics program that has a complaint hotline and a whistleblower protection provision that is approved by the board.
- Separation of chairperson and CEO positions is recommended.
- Board members can be fined or receive jail sentences if they fail to fulfill their fiduciary responsibilities.

Audit Committee

- External auditor, internal auditor, and compliance and ethics director's fiduciary (legal) responsibilities are to the audit committee.
- Audit committee approves the hiring, firing, and fees paid to external auditors.
- CEO and CFO must certify financial statements.
- All audit committee members must be outside independent directors.
- One member must be a financial expert.

External Auditor

- Lead partner must change every five years.
- There are limits on consulting (nonaudit) services that external auditors can provide.

Sources: Sarbanes-Oxley Act, Public Accounting Reform and Investor Protection Act, and NYSE and NASDAQ new listing requirements.

the preparation of financial statements. Stronger internal accounting control systems, compliance programs, and ethics programs are improving the integrity of accounting systems and reducing the likelihood of fraud and other illegal activities. Thus, the Sarbanes-Oxley Act does appear to be having an effect. The major complaint from business has been the cost of compliance.

More recently, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 introduced a number of other requirements for public companies. Two that have received a great deal of attention relate to executive compensation. The first requires that companies allow stockholders a nonbinding advisory vote on executive compensation policies—the so-called “say-on-pay” rule. The aim of say-on-pay is to provide shareholders with a way to send a message to the company if there are concerns about the firm's compensation practices. The second requirement is that all companies adopt “clawback” policies to recover compensation from executives if compensation is paid based on financial statements that later have to be “materially restated.” The goal of clawbacks is to discourage executives from misreporting the firm's accounting numbers in order to increase their pay, as any compensation they earn as a result would ultimately be “clawed back” from them.

Before You Go On

1. What are agency conflicts?
2. What are corporate raiders?
3. List the three main objectives of the Sarbanes-Oxley Act.

1.6

The Importance of Ethics in Business

LEARNING OBJECTIVE

6. Explain why ethics is an important topic in the study of corporate finance.

We have just seen that Congress included ethics program requirements in the Sarbanes-Oxley Act. Why are ethics important to business?

Business Ethics

The term *ethics* describes a society's ideas about what actions are right and wrong. Ethical values are not moral absolutes, and they can and do vary across societies. Regardless of cultural differences, however, if we think about it, all of us would probably prefer to live in a world where people behave ethically—where people try to do what is right.

In our society, ethical rules include considering the impact of our actions on others, being willing to sometimes put the interests of others ahead of our own interests, and realizing that we must follow the same rules we expect others to follow. The golden rule—"Do unto others as you would have done unto you"—is an example of a widely accepted ethical norm.⁸

Are Business Ethics Different from Everyday Ethics?

Perhaps business is a dog-eat-dog world where ethics do not matter. People who take this point of view link business ethics to the ethics of the poker game and not to the ethics of everyday morality. Poker players, they suggest, must practice cunning deception and must conceal their strengths and their intentions. After all, they are playing the game to win. How far does one go to win?

In 2002, investors learned the hard way about a number of firms that had been behaving according to the ethics of the poker game: Cunning deception and concealment of information were the order of the day at WorldCom, Enron, Global Crossing, Tyco, and a host of other firms. The market's reaction to the behavior of these firms was to wipe out \$2.3 trillion of stockholder value. More recently, in 2016, it was revealed that Wells Fargo employees had opened millions of unauthorized checking and credit card accounts for the bank's customers. Wells Fargo dismissed more than 5,300 low-level employees and was fined \$185 million; the value of the firm's equity dropped \$28 billion as this scandal developed.

We believe that those who argue that ethics do not matter in business are mistaken. Indeed, most academic studies on the topic suggest that traditions of morality are very relevant to business and to financial markets in particular. The reasons are practical as well as ethical. Corruption in business creates inefficiencies in an economy, inhibits the growth of capital markets, and slows a country's rate of economic growth.

For example, as Russia made the transition to a market economy, it had a difficult time establishing a stock market and attracting foreign investment. The reason was a simple one. Corruption was rampant in local government and in business. Contractual agreements were not enforceable, and there was no reliable financial information about Russian companies. Not until the mid-1990s did some Russian companies begin to display enough financial transparency to attract investment capital.⁹

⁸The golden rule can be stated in a number of ways. One version, in the Gospel of Matthew, states, "In everything do to others as you would have them do to you." A less noble version you occasionally hear in business is "He who has the gold makes the rules."

⁹In economics, *transparency* refers to openness and access to information. China faces many of the same issues today as it seeks to modernize its financial markets and attract foreign investors.

Types of Ethical Conflicts in Business

We turn next to a consideration of the ethical problems that arise in business dealings. Most problems involve three related areas: agency costs, conflicts of interest, and informational asymmetry.

Agency Costs

As we discussed earlier in this chapter, many relationships in business are agency relationships. Agents can be bound both legally and ethically to act in the interest of the principal. Financial managers have agency obligations to act honestly and to see that subordinates act honestly with respect to financial transactions. A product recall or environmental offense may cause a decline in a firm's stock price. However, revelations of dishonesty, deception, and fraud in financial matters can have a larger and longer-lasting impact on the stock price. If the dishonesty is flagrant, the firm may go bankrupt, as we saw with the bankruptcies of Enron and WorldCom.

Conflicts of Interest

Conflicts of interest often arise in agency relationships. A conflict of interest in such a situation can arise when the agent's interests are different from those of the principal. For example, suppose you're interested in buying a house and a local real estate agent is helping you find the home of your dreams. As it turns out, the dream house is one for which your agent is also the listing agent. Your agent has a conflict of interest because her professional obligation to help you find the right house at a fair price conflicts with her professional obligation to get the highest price possible for the client whose house she has listed.

Organizations can be either principals or agents and, hence, can be parties to conflicts of interest. In the past, for example, many large accounting firms provided both consulting services and audits for corporations. This dual function may compromise the independence and objectivity of the audit opinion, even though the work is done by different parts of the firm. For example, if consulting fees from an audit client become a large source of income, the auditing firm may be less likely to render an adverse audit opinion and thereby risk losing the consulting business.

Conflicts of interest are typically resolved in one of two ways. Sometimes complete disclosure is sufficient. Thus, in real estate transactions, it is not unusual for the same lawyer or realtor to represent both the buyer and the seller. This practice is not considered unethical as long as both sides are aware of the fact and give their consent. Alternatively, the conflicted party can withdraw from serving the interests of one of the parties. Sometimes the law mandates this solution. For example, public accounting firms are not permitted to provide certain types of consulting services to their audit clients.

Information Asymmetry

Information asymmetry exists when one party in a business transaction has information that is unavailable to the other parties in the transaction. The existence of information asymmetry in business relationships is commonplace. For example, suppose you decide to sell your 10-year-old car. You know much more about the real condition of the car than does the prospective buyer. The ethical issue is this: How much should you tell the prospective buyer? In other words, to what extent is the party with the information advantage obligated to reduce the amount of information asymmetry?

Society imposes both market-based and legal solutions for transactional information asymmetries. Consider the prospective car buyer in the previous example. You can be reasonably sure that the buyer understands that he or she has less information about the car's condition than the seller and, as a result, will pay a lower price for the vehicle. Conversely, sellers who certify or provide a warranty with respect to the condition of the vehicle reduce the concerns that buyers have about information asymmetries and therefore tend to receive higher prices.

Legal solutions often require sellers to disclose material facts to buyers or prohibit trading on information that is not widely available. For example, when you sell a car, you are required to disclose to the seller whether it has been in an accident and whether the odometer has been altered. Similarly, in many states home sellers must disclose if they are aware of any major

information asymmetry the situation in which one party in a business transaction has information that is unavailable to the other parties in the transaction

defects in their home. In the investment world, the trading of stocks based on material inside information (e.g., information that is not available to the public) has been made illegal in an effort to create a “level playing field” for all investors.

The Importance of an Ethical Business Culture

Some economists have noted that the legal system and market forces impose substantial costs on individuals and institutions that engage in unethical behavior. As a result, these forces provide important incentives that foster ethical behavior in the business community. The incentives include financial losses, legal fines, jail time, and bankruptcy. Ethicists argue, however, that laws and market forces are not enough. For example, the financial sector is one of the most heavily regulated areas of the U.S. economy. Yet despite heavy regulation, the sector has a long and rich history of financial scandals.

In addition to laws and market forces, many people argue that it is important to create an ethical culture in the firm. Why is this important? An ethical business culture means that people have a set of principles—a moral compass, so to speak—that helps them identify moral issues and make ethical judgments without being told what to do. The culture has a powerful influence on the way people behave and the way they make decisions.

The people at the top of a company determine whether or not the culture of that company is ethical. At Wells Fargo, for example, top officers promoted a culture of aggressive sales of its products to customers in order to increase fees, and a willingness, at times, to cross over ethical and even legal lines. The motto “Do no evil” was adopted by Google’s founders before they took the firm public in 2004.

More than likely, you will be confronted with ethical issues during your professional career. Knowing how to identify and deal with ethical issues is an important part of your professional skill set. **Exhibit 1.7** presents a framework for making ethical judgments.

Serious Consequences

In recent years the rules have changed, and the cost of ethical mistakes can be extremely high. In the past, the business community and legal authorities often dismissed corporate scandals as a “few rotten apples” in an otherwise sound barrel. This is no longer true today. In 2005,

EXHIBIT 1.7 A Framework for the Analysis of Ethical Conflicts

Dealing with ethical conflicts is an inescapable part of professional life for most people. An analytical framework can be helpful in understanding and resolving such conflicts.

The first step toward ethical behavior is to recognize that you face a moral issue. In general, if your actions or decisions will cause harm to others, you are facing a moral issue. When you find yourself in this position, you might ask yourself the following questions:

1. What does the law require? When in doubt, consult the legal department.
2. What do your role-related obligations require? What is your station, and what are its duties?
If you are a member of a profession, what does the code of conduct of your profession say you should do in these circumstances?
3. Are you an agent employed on behalf of another in these circumstances? If so, what are the interests and desires of the employing party?
4. Are the interests of the stockholders materially affected? Your obligation is to represent the best interests of the firm’s owners.
5. Do you have a conflict of interest? Will full disclosure of the conflict be sufficient? If not, you must determine what interest has priority.
6. Are you abusing an information asymmetry? Is your use of the information asymmetry fair? It probably is fair if you would make the same decision if the roles of the parties were reversed or if you would publicly advocate the principle behind your decision.
7. Would you be willing to have your action and all the reasons that motivated it reported in the *Wall Street Journal*?

for instance, Bernard J. Ebbers, the 63-year-old CEO of WorldCom, was found guilty of fraud and theft and was sentenced to 25 years in prison. Judge Barbara S. Jones, acknowledging that Ebbers would probably serve the rest of his days in jail, said, “I find a sentence of anything less would not reflect the seriousness of the crime.” In the past, sentences for white-collar crimes were minimal; even for serious crimes, there often was no jail time at all. Clearly, business ethics is a topic of high interest and increasing importance in the business community and one that will be discussed throughout this book.

Before You Go On

1. What is a conflict of interest in a business setting?
2. How would you define an ethical business culture?

Summary of Learning Objectives

1 Identify the key financial decisions facing the financial manager of any business.

The financial manager faces three basic decisions: (1) which productive assets the firm should buy (capital budgeting decisions), (2) how the firm should finance the productive assets purchased (financing decisions), and (3) how the firm should manage its day-to-day financial activities (working capital decisions). The financial manager should make these decisions in a way that maximizes the current value of the firm's stock.

2 Identify common forms of business organization in the United States and their respective strengths and weaknesses.

Businesses in the United States are commonly organized as a sole proprietorship, a general or limited partnership, a corporation, or a limited liability partnership or company. Most large firms elect to organize as C-corporations because of the ease of raising money; the major disadvantage is double taxation. Smaller companies tend to organize as sole proprietorships or partnerships. The advantages of these forms of organization include ease of formation and taxation at the personal income tax rate. The major disadvantage is the owners' unlimited personal liability. Limited liability partnerships and companies and S-corporations provide owners of small businesses who make the business decisions with limited personal liability.

3 Describe the typical organization of the financial function in a large corporation.

In a large corporation, the financial manager generally has the rank of vice president and goes by the title of chief financial officer. The CFO reports directly to the firm's CEO. Positions reporting directly to the CFO generally include the treasurer, the risk manager, the controller, and the internal auditor. The audit committee of the board of directors is also important in the financial function. The committee hires the external auditor for the firm, and the internal auditor, external auditor, and compliance and ethics director all report to the audit committee.

4 Explain why maximizing the value of the firm's stock is the appropriate goal for management.

Maximizing the firm's stock value is an appropriate goal because it forces management to focus on decisions that will generate the greatest amount of wealth for stockholders. Since the value of a share of stock (or any asset) is determined by its cash flows, management's decisions must consider the size of the cash flow (larger is better), the timing of the cash flow (sooner is better), and the riskiness of the cash flow (given equal returns, lower risk is better). In maximizing the value of the owner's equity, managers must make decisions that account for the interests of all stakeholders.

5 Discuss how agency conflicts affect the goal of maximizing stockholder value.

In most large corporations, there is a significant degree of separation between management and ownership. As a result, stockholders have little control over corporate managers, and management may thus be tempted to pursue its own self-interest rather than maximizing the value of the owners' stock. The resulting conflicts give rise to agency costs. Ways of reducing agency costs include developing compensation agreements that link employee compensation to the firm's performance and having independent boards of directors monitor management.

6 Explain why ethics is an important topic in the study of corporate finance.

If we lived in a world without ethical norms, we would soon discover that it would be difficult to do business. As a practical matter, the law and market forces provide important incentives that foster ethical behavior in the business community, but they are not enough to ensure ethical behavior. An ethical culture is also needed. In an ethical culture, people have a set of moral principles—a moral compass—that helps them identify ethical issues and make ethical judgments without being told what to do.