Ross

Westerfield

Jordan

essentials of corporate finance

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essentials of
Corporate Finance

The McGraw-Hill/Irwin Series in Finance, Insurance, and Real Estate

Stephen A. Ross
Franco Modigliani Professor of Finance and Economics
Sloan School of Management, Massachusetts Institute of Technology, Consulting Editor

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essentials of

Corporate Finance

EIGHTH EDITION

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From the Authors

When we first wrote *Essentials of Corporate Finance,* we thought there might be a small niche for a briefer book that really focused on what students with widely varying backgrounds and interests needed to carry away from an introductory finance course. We were wrong. There was a huge niche! What we learned is that our text closely matches the needs of instructors and faculty at hundreds of schools across the country. As a result, the growth we have experienced through the first seven editions of *Essentials* has far exceeded anything we thought possible.

With the eighth edition of *Essentials of Corporate Finance,* we have continued to refine our focus on our target audience, which is the undergraduate student taking a core course in business or corporate finance. This can be a tough course to teach. One reason is that the class is usually required of all business students, so it is not uncommon for a majority of the students to be nonfinance majors. In fact, this may be the only finance course many of them will ever have. With this in mind, our goal in *Essentials* is to convey the most important concepts and principles at a level that is approachable for the widest possible audience.

To achieve our goal, we have worked to distill the subject down to its bare essentials (hence, the name of this book), while retaining a decidedly modern approach to finance. We have always maintained that the subject of corporate finance can be viewed as the working of a few very powerful intuitions. We also think that understanding the "why" is just as important, if not more so, than understanding the "how," especially in an introductory course. Based on the gratifying market feedback we have received from our previous editions, as well as from our other text, *Fundamentals of Corporate Finance* (now in its tenth edition), many of you agree.

By design, this book is not encyclopedic. As the table of contents indicates, we have a total of 18 chapters. Chapter length is about 30 pages, so the text is aimed squarely at a single-term course, and most of the book can be realistically covered in a typical semester or quarter. Writing a book for a one-term course necessarily means some picking and choosing, with regard to both topics and depth of coverage. Throughout, we strike a balance by introducing and covering the essentials (there's that word again!) while leaving some more specialized topics to follow-up courses.

The other things we have always stressed, and have continued to improve with this edition, are readability and pedagogy. *Essentials* is written in a relaxed, conversational style that invites the students to join in the learning process rather than being a passive information absorber. We have found that this approach dramatically increases students' willingness to read and learn on their own. Between larger and larger class sizes and the ever-growing demands on faculty time, we think this is an essential (!) feature for a text in an introductory course.

Throughout the development of this book, we have continued to take a hard look at what is truly relevant and useful. In doing so, we have worked to downplay purely theoretical issues and minimize the use of extensive and elaborate calculations to illustrate points that are either intuitively obvious or of limited practical use.

As a result of this process, three basic themes emerge as our central focus in writing *Essentials of Corporate Finance:*

An Emphasis on Intuition We always try to separate and explain the principles at work on a commonsense, intuitive level before launching into any specifics. The underlying ideas are discussed first in very general terms and then by way of examples that illustrate in more concrete terms how a financial manager might proceed in a given situation.

A Unified Valuation Approach We treat net present value (NPV) as the basic concept underlying corporate finance. Many texts stop well short of consistently integrating this important principle. The most basic and important notion, that NPV represents the excess of market value over cost, often is lost in an overly mechanical approach that emphasizes computation at the expense of comprehension. In contrast, every subject we cover is firmly rooted in valuation, and care is taken throughout to explain how particular decisions have valuation effects.

A Managerial Focus Students shouldn't lose sight of the fact that financial management concerns management. We emphasize the role of the financial manager as decision maker, and we stress the need for managerial input and judgment. We consciously avoid "black box" approaches to finance, and, where appropriate, the approximate, pragmatic nature of financial analysis is made explicit, possible pitfalls are described, and limitations are discussed.

Today, as we prepare to once again enter the market, our goal is to stick with and build on the principles that have brought us this far. However, based on an enormous amount of feedback we have received from you and your colleagues, we have made this edition and its package even more flexible than previous editions. We offer flexibility in coverage and pedagogy by providing a wide variety of features in the book to help students learn about corporate finance. We also provide flexibility in package options by offering the most extensive collection of teaching, learning, and technology aids of any corporate finance text. Whether you use just the textbook, or the book in conjunction with other products, we believe you will find a combination with this edition that will meet your current as well as your changing needs.

Stephen A. Ross
Randolph W. Westerfield
Bradford D. Jordan

Organization of the Text

We designed *Essentials of Corporate Finance* to be as flexible and modular as possible. There are a total of nine parts, and, in broad terms, the instructor is free to decide the particular sequence. Further, within each part, the first chapter generally contains an overview and survey. Thus, when time is limited, subsequent chapters can be omitted. Finally, the sections placed early in each chapter are generally the most important, and later sections frequently can be omitted without loss of continuity. For these reasons, the instructor has great control over the topics covered, the sequence in which they are covered, and the depth of coverage.

Just to get an idea of the breadth of coverage in the eighth edition of *Essentials,* the following grid presents for each chapter some of the most significant new features, as well as a few selected chapter highlights. Of course, in every chapter, figures, opening vignettes, boxed features, and in-chapter illustrations and examples using real companies have been thoroughly updated as well. In addition, the end-of-chapter material has been completely revised.

Chapters	Selected Topics	Benefits to Users
PART ONE	**Overview of Financial Management**	
Chapter 1	*Updated* opener on "Say on Pay."	Highlights important development regarding the very current question of appropriate executive compensation.
	Updated corporate ethics box.	Describes ethical issues in the context of recent insider trading scandals.
	Goal of the firm and agency problems.	Stresses value creation as the most fundamental aspect of management and describes agency issues that can arise.
	Ethics, financial management, and executive compensation.	Brings in real-world issues concerning conflicts of interest and current controversies surrounding ethical conduct and management pay.
PART TWO	**Understanding Financial Statements and Cash Flow**	
Chapter 2	Cash flow vs. earnings.	Clearly defines cash flow and spells out the differences between cash flow and earnings.
	Market values vs. book values.	Emphasizes the relevance of market values over book values.
	New box on tax rates.	Discusses controversy surrounding tax rates paid by Warren Buffett, Greg Mankiw, and Mitt Romney.

Chapters	Selected Topics	Benefits to Users
Chapter 3	Additional explanation of alternative formulas for sustainable and internal growth rates.	Expanded explanation of growth rate formulas clears up a common misunderstanding about these formulas and the circumstances under which alternative formulas are correct.
	New ratio discussion.	Introduces and discusses the EBITDA/enterprise value ratio.
PART THREE	**Valuation of Future Cash Flows**	
Chapter 4	First of two chapters on time value of money.	Relatively short chapter introduces just the basic ideas on time value of money to get students started on this traditionally difficult topic.
Chapter 5	Second of two chapters on time value of money.	Covers more advanced time value topics with numerous examples, calculator tips, and Excel spreadsheet exhibits. Contains many real-world examples.
PART FOUR	**Valuing Stocks and Bonds**	
Chapter 6	*New* opener on bond ratings.	Discusses the downgrade of U.S. Treasury debt from AAA to AA.
	Bond valuation.	Thorough coverage of bond price/yield concepts.
	Interest rates and inflation.	Highly intuitive discussion of inflation, the Fisher effect, and the term structure of interest rates.
	"Clean" vs. "dirty" bond prices and accrued interest.	Clears up the pricing of bonds between coupon payment dates and also bond market quoting conventions.
	FINRA's TRACE system and transparency in the corporate bond market.	Up-to-date discussion of new developments in fixed income with regard to price, volume, and transactions reporting.
	"Make-whole" call provisions.	Up-to-date discussion of relatively new type of call provision that has become very common.
Chapter 7	Stock valuation.	Thorough coverage of constant and nonconstant growth models.
	New section on stock valuation.	Covers valuation using multiples.
	NYSE and Nasdaq Market operations.	Up-to-date description of major stock market operations.
PART FIVE	**Capital Budgeting**	
Chapter 8	*Updated* opener on GE's "Ecomagination" program.	Illustrates the growing importance of "green" business.
	First of two chapters on capital budgeting.	Relatively short chapter introduces key ideas on an intuitive level to help students with this traditionally difficult topic.
	NPV, IRR, MIRR, payback, discounted payback, accounting rate of return.	Consistent, balanced examination of advantages and disadvantages of various criteria.
Chapter 9	Project cash flow.	Thorough coverage of project cash flows and the relevant numbers for a project analysis.
	Scenario and sensitivity "what-if" analyses.	Illustrates how to actually apply and interpret these tools in a project analysis.

Chapters	Selected Topics	Benefits to Users
PART SIX	**Risk and Return**	
Chapter 10	*New* material on the 2008–2011 period.	Discusses the dramatic collapse and equally dramatic rebound in equity prices over this period.
	Capital market history.	Extensive coverage of historical returns, volatilities, and risk premiums.
	Market efficiency.	Efficient markets hypothesis discussed along with common misconceptions.
	Geometric vs. arithmetic returns.	Discusses calculation and interpretation of geometric returns. Clarifies common misconceptions regarding appropriate use of arithmetic vs. geometric average returns.
Chapter 11	Diversification, systematic, and unsystematic risk.	Illustrates basics of risk and return in a straightforward fashion.
	Beta and the security market line.	Develops the security market line with an intuitive approach that bypasses much of the usual portfolio theory and statistics.
PART SEVEN	**Long-Term Financing**	
Chapter 12	Cost of capital estimation.	Intuitive development of the WACC and a complete, web-based illustration of cost of capital for a real company.
	Geometric vs. arithmetic growth rates.	Both approaches are used in practice. Clears up issues surrounding growth rate estimates.
Chapter 13	Basics of financial leverage.	Illustrates effect of leverage on risk and return.
	Optimal capital structure.	Describes the basic trade-offs leading to an optimal capital structure.
	Financial distress and bankruptcy.	Briefly surveys the bankruptcy process.
Chapter 14	*Updated* to reflect latest research on dividend policy.	Brings students the latest thinking and evidence on dividend policy and also the results of a natural experiment—the 2003 dividend tax cut.
	Dividends and dividend policy.	Describes dividend payments and the factors favoring higher and lower payout policies. Includes recent survey results on setting dividend policy.
Chapter 15	IPO valuation.	Extensive, up-to-date discussion of IPOs, including the 1999–2000 period and the recent Facebook IPO.
	Dutch auctions.	Explains uniform price ("Dutch") auctions using Google IPO as an example.
	New coverage on the "partial adjustment" phenomenon.	Explains the well-known relation between IPO underpricing and offer prices relative to file ranges.
PART EIGHT	**Short-Term Financial Management**	
Chapter 16	Operating and cash cycles.	Stresses the importance of cash flow timing.
	Short-term financial planning.	Illustrates creation of cash budgets and potential need for financing.

Chapters	Selected Topics	Benefits to Users
Chapter 17	Cash collection and disbursement.	Examination of systems used by firms to handle cash inflows and outflows.
	Credit management.	Analysis of credit policy and implementation.
	Inventory management.	Brief overview of important inventory concepts.
PART NINE	**Topics in Business Finance**	
Chapter 18	Foreign exchange.	Covers essentials of exchange rates and their determination.
	International capital budgeting.	Shows how to adapt the basic DCF approach to handle exchange rates.
	Exchange rate and political risk.	Discusses hedging and issues surrounding sovereign risk.

Learning Solutions

In addition to illustrating relevant concepts and presenting up-to-date coverage, *Essentials of Corporate Finance* strives to present the material in a way that makes it engaging and easy to understand. To meet the varied needs of the intended audience, *Essentials of Corporate Finance* is rich in valuable learning tools and support.

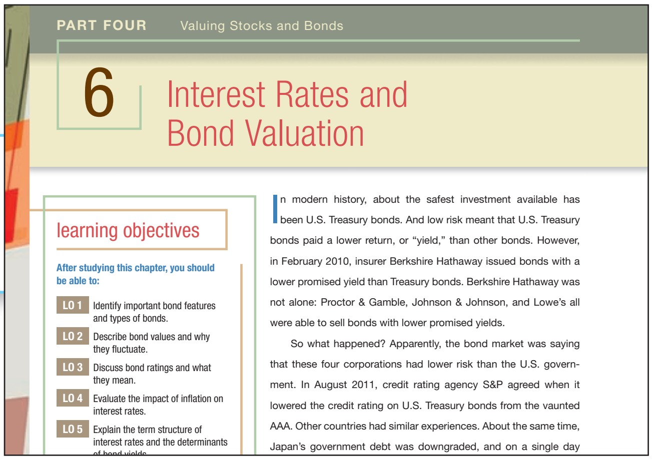
Each feature can be categorized by the benefit to the student:

- Real financial decisions
- Application tools
- Study aids

REAL FINANCIAL DECISIONS

We have included two key features that help students connect chapter concepts to how decision makers use this material in the real world.

CHAPTER-OPENING VIGNETTES
Each chapter begins with a contemporary real-world event to introduce students to chapter concepts.


PART FOUR Valuing Stocks and Bonds

6 Interest Rates and Bond Valuation

learning objectives

After studying this chapter, you should be able to:

LO 1 Identify important bond features and types of bonds.
LO 2 Describe bond values and why they fluctuate.
LO 3 Discuss bond ratings and what they mean.
LO 4 Evaluate the impact of inflation on interest rates.
LO 5 Explain the term structure of interest rates and the determinants of bond yields.

In modern history, about the safest investment available has been U.S. Treasury bonds. And low risk meant that U.S. Treasury bonds paid a lower return, or "yield," than other bonds. However, in February 2010, insurer Berkshire Hathaway issued bonds with a lower promised yield than Treasury bonds. Berkshire Hathaway was not alone: Proctor & Gamble, Johnson & Johnson, and Lowe's all were able to sell bonds with lower promised yields.

So what happened? Apparently, the bond market was saying that these four corporations had lower risk than the U.S. government. In August 2011, credit rating agency S&P agreed when it lowered the credit rating on U.S. Treasury bonds from the vaunted AAA. Other countries had similar experiences. About the same time, Japan's government debt was downgraded, and on a single day


FINANCE MATTERS

◄ For the latest news on the topics covered in this chapter, scan here.

Collectibles as Investments?

It used to be that trading in collectibles such as baseball cards, art, and old toys occurred mostly at auctions, swap meets, and collectible shops, all of which were limited to regional traffic. However, with the growing popularity of online auctions such as eBay, trading in collectibles has expanded to an international arena. The most visible form of collectible is probably the baseball card, but Furbies, Beanie Babies, and Pokémon cards have been extremely hot collectibles in the recent past. However, it's not just fad items that spark interest from collectors; virtually anything of sentimental value from days gone by is considered collectible, and, more and more, collectibles are being viewed as investments.

Collectibles typically provide no cash flows until they are sold, and condition and buyer sentiment are the major determinants of value. The rates of return have been amazing at times, but care is needed in interpreting them. For example, in 2011, an 1855-S Indian Head gold $3 coin sold for $1,322,500. While that looks like a whopping price increase to the untrained eye, check for yourself that the actual return on the investment was only about 8.69 percent per year. Not too bad, but nowhere near the return most people expect from looking at the sales price.

Comic books have recently grown in popularity among collectors. Spiderman, who first appeared in *Amazing Fantasy* No. 15, is an extremely popular superhero. The comic book sold in August 1963 at a cover price of 12 cents. In 2011, a copy of this issue had mutated to a price of $1.1 million at auction, the first Marvel Comics superhero to hit the million dollar mark. This seems like a very high return to the untrained eye, and indeed it is! Check for yourself that the return was about 39.65 percent per year.

Stamp collecting (or philately) is a another popular activity. Possibly the most desirable stamp in the world is the Mauritius "Post Office" stamp, issued in 1847. One thousand of the stamps were originally printed, and many were used on invitations by the wife of the Governor of Mauritius for a ball she was holding. Only 27 of the stamps are confirmed to remain in existence. In 2011, a blue two pence version of the stamp sold for £1,053,090 (about $1,645,000). Assuming two pence is equal to two cents, see for yourself that this represents an annual return of about 11.75 percent.

FINANCE MATTERS BOXES
Most chapters include at least one *Finance Matters* box, which takes a chapter issue and shows how it is being used right now in everyday financial decision making.

CHAPTER CASES

Located at the end of most chapters, these cases focus on hypothetical company situations that embody corporate finance topics. Each case presents a new scenario, data, and a dilemma. Several questions at the end of each case require students to analyze and focus on all of the material they learned from the chapters in that part. Great for homework or in-class exercises and discussions!

www.mhhe.com/rwj

CHAPTER CASE

FINANCING S&S AIR'S EXPANSION PLANS WITH A BOND ISSUE

Mark Sexton and Todd Story, the owners of S&S Air, have decided to expand their operations. They instructed their newly hired financial analyst, Chris Guthrie, to enlist an underwriter to help sell $20 million in new 10-year bonds to finance construction. Chris has entered into discussions with Renata Harper, an underwriter from the firm of Crowe & Mallard, about which bond features S&S Air should consider and what coupon rate the issue will likely have.

Although Chris is aware of the bond features, he is uncertain as to the costs and benefits of some features, so he isn't clear on how each feature would affect the coupon rate of the bond issue. You are Renata's assistant, and she has asked you to prepare a memo to Chris describing the effect of each of the following bond features on the coupon rate of the bond. She would also like you to list any advantages or disadvantages of each feature.

QUESTIONS

1. The security of the bond, that is, whether the bond has collateral.
2. The seniority of the bond.
3. The presence of a sinking fund.
4. A call provision with specified call dates and call prices.
5. A deferred call accompanying the above call provision.
6. A make-whole call provision.
7. Any positive covenants. Also, discuss several possible positive covenants S&S Air might consider.
8. Any negative covenants. Also, discuss several possible negative covenants S&S Air might consider.
9. A conversion feature (note that S&S Air is not a publicly traded company).
10. A floating rate coupon.

APPLICATION TOOLS

Because there is more than one way to solve problems in corporate finance, we include many sections that encourage students to learn or brush up on different problem-solving methods, including financial calculator and Excel spreadsheet skills.

WORK THE WEB

These in-chapter boxes show students how to research financial issues using the web and how to use the information they find to make business decisions. All the Work the Web boxes also include interactive follow-up questions and exercises.

WORK THE WEB

Bond quotes have become more available with the rise of the web. One site where you can find current bond prices (from TRACE) is cxa.marketwatch.com/finra/BondCenter. We went to the site and entered "Dell" for the well-known computer manufacturer. We found a total of 14 bond issues outstanding. Below you will see the information we pulled up.

						Ratings			Last Sale	
Include in Watchlist	Bond Symbol	Issuer Name	Coupon	Maturity	Callable	Moody's	S&P	Fitch	Price	Yield
☐	DELL.GJ	DELL INC	3.38	06/15/2012	Yes	A2	A-	A	100.750	1.344
☐	DELL.GF	DELL INC	4.70	04/15/2013	Yes	A2	A-	A	104.909	0.606
☐	DELL.GL	DELL INC	1.40	09/10/2013	Yes	A2	A-	A	101.161	0.672
☐	DELL.GO	DELL INC	2.10	04/01/2014	Yes	A2	A-	A	102.421	0.967
☐	DELL.GP	DELL INC	-	04/01/2014	No	A2	A-	A	99.900	-
☐	DELL.GI	DELL INC	5.63	04/15/2014	Yes	A2	A-	A	110.335	0.882
☐	DELL.GM	DELL INC	2.30	09/10/2015	Yes	A2	A-	A	103.650	1.261
☐	DELL.GQ	DELL INC	3.10	04/01/2016	Yes	A2	A-	A	107.522	1.241
☐	DELL.GG	DELL INC	5.65	04/15/2018	Yes	A2	A-	A	117.210	2.625
☐	DELL.GK	DELL INC	5.88	06/15/2019	Yes	A2	A-	A	119.774	2.878
☐	DELL.GR	DELL INC	4.63	04/01/2021	Yes	A2	A-	A	110.750	3.258
☐	DELL.GB	DELL INC	7.10	04/15/2028	Yes	A2	A-	A	125.898	4.784
☐	DELL.GH	DELL INC	6.50	04/15/2038	Yes	A2	A-	A	125.300	4.793
☐	DELL.GN	DELL INC	5.40	09/10/2040	Yes	A2	A-	A	108.702	4.834

Most of the information is self-explanatory. The price and yield columns show the price and yield to maturity of the issues based on their most recent sales. If you need more information about a particular issue, clicking on it will give you more details such as coupon dates and call dates.

Questions

1. *Go to this website and find the last bond shown above. When was this bond issued? What was the size of the bond issue? What were the yield to maturity and price when the bond was issued?*
2. *When you search for Chevron bonds (CVX), you will find bonds for several companies listed. Why do you think Chevron has bonds issued with different corporate names?*

EXPLANATORY WEB LINKS

These web links are provided in the margins of the text. They are specifically selected to accompany text material and provide students and instructors with a quick way to check for additional information using the Internet.

Bond Price Reporting

To learn more about TRACE, visit www.finra.org.

In 2002, transparency in the corporate bond market began to improve dramatically. Under new regulations, corporate bond dealers are now required to report trade information through what is known as the Trade Reporting and Compliance Engine (TRACE). A nearby *Work the Web* box shows how to get TRACE prices.

As we mentioned before, the U.S. Treasury market is the largest securities market in the world. As with bond markets in general, it is an OTC market, so there is limited transparency. However, unlike the situation with bond markets in general, trading in Treasury issues, particularly recently issued ones, is very heavy. Each day, representative prices for outstanding Treasury issues are reported.

To purchase newly issued corporate bonds, go to www.internotes.com.

Figure 6.3 shows a portion of the daily Treasury note and bond listings from *The Wall Street Journal* online. The only difference between a Treasury note and a Treasury bond is that notes have 10 years or less to maturity at the time of issuance. The entry that begins "05/15/2030" is highlighted. Reading from left to right, the "05/15/2030" tells us that the bond's maturity is May 15, 2030. The 6.250 is the bond's coupon rate. Treasury bonds all make semiannual payments and have a face value of $1,000, so this bond will pay $31.25

WHAT'S ON THE WEB?

These end-of-chapter activities show students how to use and learn from the vast amount of financial resources available on the Internet.

WHAT'S ON THE WEB?

14.1 Dividend Reinvestment Plans. Dividend reinvestment plans (DRIPs) permit shareholders to automatically reinvest cash dividends in the company. To find out more about DRIPs, go to www.fool.com and answer the following questions about DRIPS. What are the advantages Motley Fool lists for DRIPs? What are the different types of DRIPs? What is a direct purchase plan? How does a direct purchase plan differ from a DRIP?

14.2 Dividends. Go to www.earnings.com and find the list of dividends. How many companies went "ex" today? What is the largest declared dividend? For the stocks going "ex" today, what is the longest time until the payable date?

14.3 Stock Splits. Go to www.earnings.com and find the stock splits. How many stock splits are listed? How many are reverse splits? What is the largest split and the largest reverse split in terms of shares? Pick a company and follow the link. What type of information do you find?

How to Calculate Present Values with Multiple Future Cash Flows Using a Financial Calculator

CALCULATOR HINTS

To calculate the present value of multiple cash flows with a financial calculator, we will simply discount the individual cash flows one at a time using the same technique we used in our previous chapter, so this is not really new. There is a shortcut, however, that we can show you. We will use the numbers in Example 5.3 to illustrate.

To begin, of course, we first remember to clear out the calculator! Next, from Example 5.3, the first cash flow is $200 to be received in one year and the discount rate is 12 percent, so we do the following:

Enter	1	12			200
	N	I/Y	PMT	PV	FV
Solve for				−178.57	

Now, you can write down this answer to save it, but that's inefficient. All calculators have a memory where you can store numbers. Why not just save it there? Doing so cuts way down on mistakes because you don't have to write down and/or rekey numbers, and it's much faster.

CALCULATOR HINTS

Calculator Hints is a self-contained section occurring in various chapters that first introduces students to calculator basics and then illustrates how to solve problems with the calculator. Appendix D goes into more detailed instructions by solving problems with two specific calculators.

EXCEL MASTER ICONS

Topics covered in the comprehensive Excel Master supplement (found on the Online Learning Center) are indicated by an icon in the margin

ExcelMaster coverage online

Investing for a Single Period

Suppose you were to invest $100 in a savings account that pays 10 percent interest per year. How much would you have in one year? You would have $110. This $110 is equal to your original *principal* of $100 plus $10 in interest that you earn. We say that $110 is the future value of $100 invested for one year at 10 percent, and we simply mean that $100 today is

How to Calculate Present Values with Multiple Future Cash Flows Using a Spreadsheet

SPREADSHEET STRATEGIES

Just as we did in our previous chapter, we can set up a basic spreadsheet to calculate the present values of the individual cash flows as follows. Notice that we have simply calculated the present values one at a time and added them up.

	A	B	C	D	E	F
1						
2	Using a spreadsheet to value multiple cash flows					
3						
4	What is the present value of $200 in one year, $400 the next year, $600 the next year, and					
5	$800 the last year if the discount rate is 12 percent?					
6						
7	Rate:	.12				
8						
9	Year	Cash flows	Present values	Formula used		
10	1	$200	$178.57	=PV(B7, A10,0,-B10)		
11	2	$400	$318.88	=PV(B7, A11,0,-B11)		
12	3	$600	$427.07	=PV(B7, A12,0,-B12)		
13	4	$800	$508.41	=PV(B7, A13,0,-B13)		
14						
15		Total PV:	$1,432.93	=SUM(C10:C13)		
16						
17	Notice the negative signs inserted in the PV formulas. These just make the present values have					
18	positive signs. Also, the discount rate in cell B7 is entered as B7 (an "absolute" reference)					
19	because it is used over and over. We could have just entered ".12" instead, but our approach is					
20	more flexible.					
21						
22						

SPREADSHEET STRATEGIES

The unique Spreadsheet Strategies feature is also in a self-contained section, showing students how to set up spreadsheets to solve problems—a vital part of every business student's education.

the discount rate is 6 percent? If the discount rate is 22 percent?

LO 1 **3. Future Value and Multiple Cash Flows.** Havana, Inc., has identified an investment project with the following cash flows. If the discount rate is 8 percent, what is the future value of these cash flows in Year 4? What is the future value at an interest rate of 11 percent? At 24 percent?

Year	Cash Flow
1	$ 1,075
2	1,235
3	1,510
4	1,965

LO 1 **4. Calculating Annuity Present Values.** An investment offers $6,700 per year for 15 years, with the first payment occurring 1 year from now. If the required return is 8 percent, what is the value of the investment? What would the value be if the

SPREADSHEET TEMPLATES

Indicated by an Excel icon next to applicable end-of-chapter questions and problems, spreadsheet templates are available for selected problems on the Student Edition of the book's website, www.mhhe.com/rwj. For even more spreadsheet examples, check out Excel Master, also available on the website.

STUDY AIDS

We want students to get the most from this book and this course, and we realize that students have different learning styles and study needs. We therefore present a number of study features to appeal to a wide range of students.

LEARNING OBJECTIVES

Each chapter begins with a number of learning objectives that are key to the student's understanding of the chapter. Learning objectives are also linked to end-of-chapter problems and test bank questions.

learning objectives

After studying this chapter, you should be able to:

LO 1 Standardize financial statements for comparison purposes.

LO 2 Compute and, more important, interpret some common ratios.

LO 3 Assess the determinants of a firm's profitability and growth.

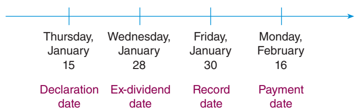
LO 4 Identify and explain some of the problems and pitfalls in financial statement analysis.

PEDAGOGICAL USE OF COLOR

We continue to use a full-color palette in *Essentials* not only to make the text more inviting, but, more important, as a functional element to help students follow the discussion. In almost every chapter, color plays an important, largely self-evident role. A guide to the use of color is found on the back endsheets.

FIGURE 14.1

Example of the procedure for dividend payment



1. *Declaration date:* The board of directors declares a payment of dividends.
2. *Ex-dividend date:* A share of stock goes ex dividend on the date the seller is entitled to keep the dividend; under NYSE rules, shares are traded ex dividend on and after the second business day before the record date.
3. *Record date:* The declared dividends are distributable to those who are shareholders of record as of this specific date.
4. *Payment date:* The dividend checks are mailed to shareholders of record.

CRITICAL THINKING QUESTIONS

Every chapter ends with a set of critical thinking questions that challenge the students to apply the concepts they learned in the chapter to new situations.

CRITICAL THINKING AND CONCEPTS REVIEW

LO 2 **3.1** **Current Ratio.** What effect would the following actions have on a firm's current ratio? Assume that net working capital is positive.

- **a.** Inventory is purchased.
- **b.** A supplier is paid.
- **c.** A short-term bank loan is repaid.
- **d.** A long-term debt is paid off early.
- **e.** A customer pays off a credit account.
- **f.** Inventory is sold at cost.
- **g.** Inventory is sold for a profit.

LO 2 **3.2** **Current Ratio and Quick Ratio.** In recent years, Dixie Co. has greatly increased its current ratio. At the same time, the quick ratio has fallen. What has happened? Has the liquidity of the company improved?

LO 2 **3.3** **Current Ratio.** Explain what it means for a firm to have a current ratio equal to .50. Would the firm be better off if the current ratio were 1.50? What if it were 15.0? Explain your answers.

LO 2 **3.4** **Financial Ratios.** Fully explain the kind of information the following financial ratios provide about a firm:

CONCEPT QUESTIONS

Chapter sections are intentionally kept short to promote a step-by-step, building-block approach to learning. Each section is then followed by a series of short concept questions that highlight the key ideas just presented. Students use these questions to make sure they can identify and understand the most important concepts as they read.

CONCEPT QUESTIONS

3.4a What does a firm's internal growth rate tell us?

3.4b What does a firm's sustainable growth rate tell us?

3.4c Why is the sustainable growth rate likely to be larger than the internal growth rate?

NUMBERED EXAMPLES

Separate numbered and titled examples are extensively integrated into the chapters. These examples provide detailed applications and illustrations of the text material in a step-by-step format. Each example is completely self-contained so that students don't have to search for additional information. Based on our classroom testing, these examples are among the most useful learning aids because they provide both detail and explanation.

EXAMPLE 11.4

PORTFOLIO VARIANCE AND STANDARD DEVIATION

In Example 11.3, what are the standard deviations on the two portfolios? To answer, we first have to calculate the portfolio returns in the two states. We will work with the second portfolio, which has 50 percent in Stock A and 25 percent in each of Stocks B and C. The relevant calculations can be summarized as follows:

State of Economy	Probability of State	Returns			
		Stock A	Stock B	Stock C	Portfolio
Boom	.40	10%	15%	20%	13.75%
Bust	.60	8	4	0	5.00

The portfolio return when the economy booms is calculated as:

$$.50 \times 10\% + .25 \times 15\% + .25 \times 20\% = 13.75\%$$

The return when the economy goes bust is calculated the same way. The expected return on the portfolio is .085. The variance is thus:

$$\begin{aligned}\sigma^2 &= .40 \times (.1375 - .085)^2 + .60 \times (.05 - .085)^2 \\ &= .0018375\end{aligned}$$

TABLE 3.9

Summary of internal and sustainable growth rates

I. Internal growth rate

$$\text{Internal growth rate} = \frac{\text{ROA} \times b}{1 - \text{ROA} \times b}$$

where

ROA = Return on assets = Net income/Total assets

b = Plowback (retention) ratio

= Addition to retained earnings/Net income

= 1 − Dividend payout ratio

The internal growth rate is the maximum growth rate that can be achieved with no external financing of any kind.

II. Sustainable growth rate

$$\text{Sustainable growth rate} = \frac{\text{ROE} \times b}{1 - \text{ROE} \times b}$$

where

ROE = Return on equity = Net income/Total equity

b = Plowback (retention) ratio

= Addition to retained earnings/Net income

= 1 − Dividend payout ratio

The sustainable growth rate is the maximum growth rate that can be achieved with no external equity financing while maintaining a constant debt-equity ratio.

SUMMARY TABLES

These tables succinctly restate key principles, results, and equations. They appear whenever it is useful to emphasize and summarize a group of related concepts.

KEY TERMS

These are printed in blue the first time they appear, and are defined within the text and in the margin.

3.2 RATIO ANALYSIS

financial ratios
Relationships determined from a firm's financial information and used for comparison purposes.

Another way of avoiding the problems involved in comparing companies of different sizes is to calculate and compare **financial ratios**. Such ratios are ways of comparing and investigating the relationships between different pieces of financial information. We cover some of the more common ratios next, but there are many others that we don't touch on.

One problem with ratios is that different people and different sources frequently don't compute them in exactly the same way, and this leads to much confusion. The specific definitions we use here may or may not be the same as ones you have seen or will see elsewhere. If you are ever using ratios as a tool for analysis, you should be careful to document how you calculate each one, and, if you are comparing your numbers to those of another source, be sure you know how their numbers are computed.

Total Debt Ratio The *total debt ratio* takes into account all debts of all maturities to all creditors. It can be defined in several ways, the easiest of which is:

$$\begin{aligned}\text{Total debt ratio} &= \frac{\text{Total assets} - \text{Total equity}}{\text{Total assets}} \qquad [3.4] \\ &= \frac{\$3{,}588 - 2{,}591}{\$3{,}588} = .28 \text{ times}\end{aligned}$$

KEY EQUATIONS

These are called out in the text and identified by equation numbers. Appendix B shows the key equations by chapter.

HIGHLIGHTED PHRASES

Throughout the text, important ideas are presented separately and printed in boxes to indicate their importance to the students.

The goal of financial management is to maximize the current value per share of the existing stock.

CONNECT POP QUIZ

New to this edition, this end-of-chapter feature gives students a quick glimpse into how close they are to mastering the material. Students test their knowledge with practice questions from McGraw-Hill's Self-Quiz and Study program. This can be a great way to engage your *Connect*-using students!

connect POP QUIZ!

FINANCE

Can you answer the following questions? If your class is using *Connect Finance,* log on to the Self-Quiz and Study feature in the Library tab to see if you know the answers to these and other questions, check out the study tools, and find out what topics require additional practice!

Section 4.1 If you deposit $4,500 in an IRA, earn a 10.55 percent rate of return, and make no additional contributions, how much will that account be worth in 44 years?

Section 4.2 If you want to be a millionaire upon your retirement in 45 years, how much do you need to invest today? Assume an 11.20 percent annual return, and no additional contributions.

Section 4.3 At 4.75 percent interest, how long does it take to double your money?

CHAPTER SUMMARY AND CONCLUSIONS

These paragraphs review the chapter's key points and provide closure to the chapter.

SUMMARY AND CONCLUSIONS

◀ Think you've mastered the material? Scan here to take a chapter quiz.

This chapter has described how to go about putting together a discounted cash flow analysis and evaluating the results. In it, we covered:

1. The identification of relevant project cash flows. We discussed project cash flows and described how to handle some issues that often come up, including sunk costs, opportunity costs, financing costs, net working capital, and erosion.
2. Preparing and using pro forma, or projected, financial statements. We showed how pro forma financial statement information is useful in coming up with projected cash flows.
3. The use of scenario and sensitivity analysis. These tools are widely used to evaluate the impact of assumptions made about future cash flows and NPV estimates.
4. Additional issues in capital budgeting. We examined the managerial options implicit in many capital budgeting situations. We also discussed the capital rationing problem.

The discounted cash flow analysis we've covered here is a standard tool in the business world. It is a very powerful tool, so care should be taken in its use. The most important thing is to get the cash flows identified in a way that makes economic sense. This chapter gives you a good start on learning to do this.

CHAPTER REVIEW AND SELF-TEST PROBLEMS

Review and self-test problems appear after the chapter summaries. Detailed answers to the self-test problems immediately follow. These questions and answers allow students to test their abilities in solving key problems related to the content of the chapter. New to this edition, these problems are mapped to similar problems in the end-of-chapter material. The aim is to help students work through difficult problems using the authors' work as an example.

CHAPTER REVIEW AND SELF-TEST PROBLEMS

www.mhhe.com/rwj

9.1 **Calculating Operating Cash Flow.** Mater Pasta, Inc., has projected a sales volume of $1,432 for the second year of a proposed expansion project. Costs normally run 70 percent of sales, or about $1,002 in this case. The depreciation expense will be $80, and the tax rate is 34 percent. What is the operating cash flow? (See Problem 9.)

9.2 **Scenario Analysis.** A project under consideration costs $500,000, has a five-year life, and has no salvage value. Depreciation is straight-line to zero. The required return is 15 percent, and the tax rate is 34 percent. Sales are projected at 400 units per year. Price per unit is $3,000, variable cost per unit is $1,900, and fixed costs are $250,000 per year. No net working capital is required.

Suppose you think the unit sales, price, variable cost, and fixed cost projections are accurate to within 5 percent. What are the upper and lower bounds for these projections? What is the base-case NPV? What are the best- and worst-case scenario NPVs? (See Problem 19.)

Answers to Chapter Review and Self-Test Problems

9.1 First, we can calculate the project's EBIT, its tax bill, and its net income.

$$\text{EBIT} = \$1{,}432 - 1{,}002 - 80 = \$350$$
$$\text{Taxes} = \$350 \times .34 = \$119$$
$$\text{Net income} = \$350 - 119 = \$231$$

With these numbers, operating cash flow is:

$$\begin{aligned}\text{OCF} &= \text{EBIT} + \text{Depreciation} - \text{Taxes}\\ &= \$350 + 80 - 119\\ &= \$311\end{aligned}$$

END-OF-CHAPTER QUESTIONS AND PROBLEMS

We have found that many students learn better when they have plenty of opportunity to practice. We therefore provide extensive end-of-chapter questions and problems—now linked to Learning Objectives. The questions and problems are generally separated into three levels—Basic, Intermediate, and Challenge. All problems are fully annotated so that students and instructors can readily identify particular types. Throughout the text, we have worked to supply interesting problems that illustrate real-world applications of chapter material. Answers to selected end-of-chapter problems appear in Appendix C.

QUESTIONS AND PROBLEMS

connect FINANCE — Select problems are available in McGraw-Hill *Connect.* Please see the packaging options section of the preface for more information.

www.mhhe.c

Basic
(Questions 1–20)

LO 1 — **1. Relevant Cash Flows.** Kenny, Inc., is looking at setting up a new manufacturing plant in South Park. The company bought some land six years ago for $7.5 million in anticipation of using it as a warehouse and distribution site, but the company has since decided to rent facilities elsewhere. The land would net $10.3 million if it were sold today. The company now wants to build its new manufacturing plant on this land; the plant will cost $24 million to build, and the site requires $975,000 worth of grading before it is suitable for construction. What is the proper cash flow amount to use as the initial investment in fixed assets when evaluating this project? Why?

LO 1 — **2. Relevant Cash Flows.** Winnebagel Corp. currently sells 28,000 motor homes per year at $73,000 each and 7,000 luxury motor coaches per year at $115,000 each. The company wants to introduce a new portable camper to fill out its product line; it hopes to sell 29,000 of these campers per year at $18,500 each. An independent consultant has determined that if Winnebagel introduces the new campers, it should boost the sales of its existing motor homes by 2,500 units per year and reduce the sales of its motor coaches by 750 units per year. What is the amount to use as the annual sales figure when evaluating this project? Why?

LO 2 — **3. Calculating Projected Net Income.** A proposed new investment has projected sales of $750,000. Variable costs are 55 percent of sales, and fixed costs are $182,500; depreciation is $86,000. Prepare a pro forma income statement assuming a tax rate of 35 percent. What is the projected net income?

Comprehensive Teaching and Learning Package

This edition of *Essentials* has more options than ever in terms of the textbook, instructor supplements, student supplements, and multimedia products. Mix and match to create a package that is perfect for your course!

INSTRUCTOR SUPPLEMENTS

Assurance of Learning Ready

Assurance of learning is an important element of many accreditation standards. *Essentials of Corporate Finance, 8e,* is designed specifically to support your assurance of learning initiatives. Each chapter in the book begins with a list of numbered learning objectives which appear throughout the chapter, as well as in the end-of-chapter problems and exercises. Every test bank question is also linked to one of these objectives, in addition to level of difficulty, topic area, Bloom's Taxonomy level, and AACSB skill area. *Connect,* McGraw-Hill's online homework solution, and *EZ Test,* McGraw-Hill's easy-to-use test bank software, can search the test bank by these and other categories, providing an engine for targeted Assurance of Learning analysis and assessment.

AACSB Statement

The McGraw-Hill Companies is a proud corporate member of AACSB International. Understanding the importance and value of AACSB Accreditation, *Essentials of Corporate Finance, 8e,* has sought to recognize the curricula guidelines detailed in the AACSB standards for business accreditation by connecting selected questions in the test bank to the general knowledge and skill guidelines found in the AACSB standards.

The statements contained in *Essentials of Corporate Finance, 8e,* are provided only as a guide for the users of this text. The AACSB leaves content coverage and assessment within the purview of individual schools, the mission of the school, and the faculty. While *Essentials of Corporate Finance, 8e,* and the teaching package make no claim of any specific AACSB qualification or evaluation, we have, within the test bank, labeled selected questions according to the six general knowledge and skills areas.

Instructor Supplements

- **Instructor's Manual (IM)**

  Prepared by Denver Travis, Eastern Kentucky University

  A great place to find new lecture ideas! This annotated outline for each chapter includes Lecture Tips, Real-World Tips, Ethics Notes, suggested PowerPoint slides, and, when appropriate, a video synopsis.

- **Solutions Manual (SM)**

  Prepared by Joseph Smolira, Belmont University

  The *Essentials* Solutions Manual provides detailed solutions to the extensive end-of-chapter material, including concept review questions, quantitative problems, and cases. Select chapters also contain calculator solutions.

- **Test Bank**

  Prepared by LaDoris Baugh and Michael Essary, Athens State University

  Great format for a better testing process! All questions closely link with the text material, listing section number, Learning Objective, Bloom's Taxonomy Question Type, and AACSB topic when applicable. Each chapter is divided into five parts. Part I contains questions that test the understanding of the key terms in the book. Part II includes questions patterned after the learning objectives, concept questions, chapter-opening vignettes, boxes, and highlighted phrases. Part III contains multiple-choice and true/false problems patterned after the end-of-chapter questions, in basic, intermediate, and challenge levels. Part IV provides essay questions to test problem-solving skills and more advanced understanding of concepts. Part V is a new section that picks up questions directly from the end-of-chapter material and converts them into parallel test bank questions. For your reference, each test bank question in this part is linked with its corresponding question in the end-of-chapter section. Also included are ready-made quizzes to hand out in class.

- **Computerized Test Bank (Windows)**

  Create your own tests in a snap! These additional questions are found in a computerized test bank utilizing McGraw-Hill's EZ Test testing software to quickly create customized exams. This user-friendly program allows instructors to sort questions by format, edit existing questions or add new ones, and scramble questions for multiple versions of the same test.

- **PowerPoint Presentation System**

  Prepared by Denver Travis, Eastern Kentucky University

  Customize our content for your course! This presentation has been thoroughly revised to include more lecture-oriented slides, as well as exhibits and examples both from the book and from outside sources. Applicable slides have web links that take you directly to specific Internet sites or spreadsheet links to show an example in Excel. You can also go to the Notes Page function for more tips in presenting the slides. New to this edition, additional PPT slides work through example problems for instructors to show in class. If you already have PowerPoint installed on your PC, you have the ability to edit, print, or rearrange the complete presentation to meet your specific needs.

Videos (DVD Format)

Current set of videos on hot topics! McGraw-Hill/Irwin has produced a series of finance videos that are 10-minute case studies on topics such as Financial Markets, Careers, Rightsizing, Capital Budgeting, EVA (Economic Value Added), Mergers and Acquisitions, and International Finance.

ONLINE SUPPORT

Online Learning Center at www.mhhe.com/rwj

The Online Learning Center (OLC) contains *free* access to additional web-based study and teaching aids created for this text, such as:

- **Student Support**

  A great resource for those seeking additional practice, students can access self-grading quizzes, Excel template problems, and the *Excel Master* tutorial designed by Brad Jordan and Joe Smolira.

- **Premium Content Access**

  Narrated PowerPoint Slides *Updated by Kay Johnson.* The narrated PowerPoints provide real-world examples accompanied by step-by-step instructions and explanations for solving problems presented in the chapter. The Concept Checks from the text are also integrated into the slides to reinforce the key topics in the chapter. Designed specifically to appeal to different learning styles, the slides provide a visual and audio explanation of topics and problems. Click on the slide and listen to the accompanying narration! You can view this slide via computer or download it onto your mobile device.

- **Teaching Support**

  Along with having access to all of the same material your students can view on the book's OLC, you also have password-protected access to the Instructor's Manual, solutions to end-of-chapter problems and cases, Instructor's Excel Master, Instructor's PowerPoint, Excel template solutions, video clips, and video projects and questions.

  WebCT and Blackboard course cartridges allow instructors to manage their course and administer examinations online. Increase ease, organization, and efficiency and ask your representative for more details about course cartridges today!

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Less Managing. More Teaching. Greater Learning.

McGraw-Hill's *Connect Finance* is an online assignment and assessment solution that connects students with the tools and resources they'll need to achieve success.

Connect helps prepare students for their future by enabling faster learning, more efficient studying, and better retention of knowledge.

McGraw-Hill *Connect Finance* Features *Connect Finance* offers powerful tools and features to make managing assignments easier, so faculty can spend more time teaching. With *Connect Finance*, students can engage with their coursework anytime and anywhere, making the learning process more accessible and efficient. *Connect Finance* offers you the features described below.

Simple Assignment Management With *Connect Finance,* creating assignments is easier than ever, so you can spend more time teaching and less time managing. The assignment management function enables you to:

- Create and deliver assignments easily with selectable end-of-chapter questions and test bank items.
- Streamline lesson planning, student progress reporting, and assignment grading to make classroom management more efficient than ever.
- Go paperless with the eBook and online submission and grading of student assignments.

Smart Grading When it comes to studying, time is precious. *Connect Finance* helps students learn more efficiently by providing feedback and practice material when they need it, where they need it. When it comes to teaching, your time is also precious. The grading function enables you to:

- Have assignments scored automatically, giving students immediate feedback on their work and side-by-side comparisons with correct answers.

- Access and review each response; manually change grades or leave comments for students to review.
- Reinforce classroom concepts with practice tests and instant quizzes.

Instructor Library The *Connect Finance* Instructor Library is your repository for additional resources to improve student engagement in and out of class. You can select and use any asset that enhances your lecture.

Student Study Center The *Connect Finance* Student Study Center is the place for students to access additional resources. The Student Study Center:

- Offers students quick access to lectures, practice materials, eBooks, and more.
- Provides instant practice material and study questions, easily accessible on the go.
- Gives students access to the Self-Quiz and Study plan described below.

***Connect* Self-Quiz and Study Feature** This Study Feature connects each student to the learning resources needed for success in the course. For each chapter, students:

- Take a practice test to gauge understanding of the material.
- Immediately upon completing the practice test, see how their performance compares to the chapter objectives to be achieved within each section of the chapters.
- Receive a personal learning plan that recommends specific readings from the text, supplemental study material, and practice work that will improve their understanding and mastery of each learning objective.

Student Progress Tracking *Connect Finance* keeps instructors informed about how each student, section, and class is performing, allowing for more productive use of lecture and office hours. The progress-tracking function enables you to:

- View scored work immediately and track individual or group performance with assignment and grade reports.
- Access an instant view of student or class performance relative to learning objectives.

Lecture Capture through Tegrity Campus For an additional charge, Lecture Capture offers new ways for students to focus on the in-class discussion, knowing they can revisit important topics later. This can be delivered through *Connect* or separately. See below for more details.

McGraw-Hill *Connect Plus Finance* McGraw-Hill reinvents the textbook learning experience for the modern student with *Connect Plus Finance.* A seamless integration of an eBook and *Connect Finance, Connect Plus Finance* provides all of the *Connect Finance* features plus the following:

- An integrated eBook, allowing for anytime, anywhere access to the textbook.
- Dynamic links between the problems or questions you assign to your students and the location in the eBook where that problem or question is covered.
- A powerful search function to pinpoint and connect key concepts in a snap.

Diagnostic and Adaptive Learning of Concepts: LearnSmart

Students want to make the best use of their study time. The LearnSmart adaptive self-study technology within *Connect Finance* provides students with a seamless combination of practice, assessment, and remediation for every concept in the textbook. LearnSmart's intelligent software adapts to every student response and automatically delivers concepts that advance the student's understanding while reducing time devoted to the concepts already mastered. The result for every student is the fastest path to mastery of the chapter concepts. LearnSmart:

- Applies an intelligent concept engine to identify the relationships between concepts and to serve new concepts to each student only when he or she is ready.
- Adapts automatically to each student, so students spend less time on the topics they understand and practice more those they have yet to master.
- Provides continual reinforcement and remediation, but gives only as much guidance as students need.
- Integrates diagnostics as part of the learning experience.
- Enables you to assess which concepts students have efficiently learned on their own, thus freeing class time for more applications and discussion.

In short, *Connect Finance* offers you and your students powerful tools and features that optimize your time and energies, enabling you to focus on course content, teaching, and student learning. *Connect Finance* also offers a wealth of content resources for both instructors and students. This state-of-the-art, thoroughly tested system supports you in preparing students for the world that awaits.

For more information about *Connect,* go to **www.mcgrawhillconnect.com**, or contact your McGraw-Hill sales representative.

Tegrity Campus: Lectures 24/7

Tegrity Campus is a service that makes class time available 24/7 by automatically capturing every lecture in a searchable format for students to review when they study and complete assignments. With a simple one-click start-and-stop process, you capture all computer screens and corresponding audio. Students can replay any part of any class with easy-to-use browser-based viewing on a PC or Mac.

Educators know that the more students can see, hear, and experience class resources, the better they learn. In fact, studies prove it. With Tegrity Campus, students quickly recall key moments by using Tegrity Campus's unique search feature. This search helps students efficiently find what they need, when they need it, across an entire semester of class recordings. Help turn all your students' study time into learning moments immediately supported by your lecture.

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Introduction to Financial Management

1

Compensation of corporate executives in the United States continues to be a hot button issue. It is widely thought that CEO pay has grown to exorbitant levels (at least in some cases). In July 2010, the Dodd-Frank *Wall Street Reform and Consumer Protection Act* became law. The "say on pay" portion of the bill requires that, beginning in January 2011, corporations with a market value over $75 million must allow a nonbinding shareholder vote on executive pay. (Note that because the bill applies to corporations, it does not give voters a "say on pay" for U.S. representatives and senators.)

Specifically, the measure allows shareholders to approve or disapprove a company's executive compensation plans. Because the bill is nonbinding, it does not permit shareholders to veto a compensation package and does not place limits on executive pay. In February 2011, the shareholders of Beazer Homes USA and Jacobs Engineering Group became the first shareholders to vote against executive compensation under the new law. Of course, these companies weren't alone. In 2011, about 50 companies received negative shareholder votes on executive compensation.

Understanding how a corporation sets executive pay, and the role of shareholders in that process, takes us into issues involving the corporate form of organization, corporate goals, and corporate control, all of which we cover in this chapter.

learning objectives

After studying this chapter, you should be able to:

LO 1 Discuss the basic types of financial management decisions and the role of the financial manager.

LO 2 Identify the goal of financial management.

LO 3 Compare the financial implications of the different forms of business organizations.

LO 4 Describe the conflicts of interest that can arise between managers and owners.

To begin our study of financial management, we address two central issues. First: What is corporate, or business, finance, and what is the role of the financial manager? Second: What is the goal of financial management?

1.1 FINANCE: A QUICK LOOK

Check out the companion website for this text at www.mhhe.com/rwj.

Before we plunge into our study of "corp. fin.," we think a quick overview of the finance field might be a good idea. Our goal is to clue you in on some of the most important areas in finance and some of the career opportunities available in each. We also want to illustrate some of the ways finance fits in with other areas such as marketing, management, and accounting.

The Four Basic Areas

Traditionally, financial topics are grouped into four main areas:

1. Corporate finance
2. Investments
3. Financial institutions
4. International finance

We discuss each of these next.

For job descriptions in finance and other areas, visit www.careers-in-business.com.

Corporate Finance The first of these four areas, corporate finance, is the main subject of this book. We begin covering this subject with our next section, so we will wait until then to get into any details. One thing we should note is that the term *corporate finance* seems to imply that what we cover is only relevant to corporations, but the truth is that almost all of the topics we consider are much broader than that. Maybe *business finance* would be a little more descriptive, but even this is too narrow because at least half of the subjects we discuss in the pages ahead are really basic financial ideas and principles applicable across all the various areas of finance and beyond.

Investments Broadly speaking, the investments area deals with financial assets such as stocks and bonds. Some of the more important questions include:

1. What determines the price of a financial asset, such as a share of stock?
2. What are the potential risks and rewards associated with investing in financial assets?
3. What is the best mixture of the different types of financial assets to hold?

Students who specialize in the investments area have various career opportunities. Being a stockbroker is one of the most common. Stockbrokers often work for large companies such as Merrill Lynch, advising customers on what types of investments to consider and helping them make buy and sell decisions. Financial advisers play a similar role, but are not necessarily brokers.

Portfolio management is a second investments-related career path. Portfolio managers, as the name suggests, manage money for investors. For example, individual investors frequently buy into mutual funds. Such funds are simply a means of pooling money that is then invested by a portfolio manager. Portfolio managers also invest and manage money for pension funds, insurance companies, and many other types of institutions.

Security analysis is a third area. A security analyst researches individual investments, such as stock in a particular company, and makes a determination as to whether the price is right. To do so, an analyst delves deeply into company and industry reports, along with a variety of other information sources. Frequently, brokers and portfolio managers rely on security analysts for information and recommendations.

These investments-related areas, like many areas in finance, share an interesting feature. If they are done well, they can be very rewarding financially (translation: You can make a lot of money). The bad news, of course, is that they can be very demanding and very competitive, so they are definitely not for everybody.

Financial Institutions Financial institutions are basically businesses that deal primarily in financial matters. Banks and insurance companies would probably be the most familiar to you. Institutions such as these employ people to perform a wide variety of finance-related tasks. For example, a commercial loan officer at a bank would evaluate whether a particular business has a strong enough financial position to warrant extending a loan. At an insurance company, an analyst would decide whether a particular risk was suitable for insuring and what the premium should be.

International Finance International finance isn't so much an area as it is a specialization within one of the main areas we described above. In other words, careers in international finance generally involve international aspects of either corporate finance, investments, or financial institutions. For example, some portfolio managers and security analysts specialize in non-U.S. companies. Similarly, many U.S. businesses have extensive overseas operations and need employees familiar with such international topics as exchange rates and political risk. Banks frequently are asked to make loans across country lines, so international specialists are needed there as well.

Why Study Finance?

Who needs to know finance? In a word, you. In fact, there are many reasons you need a working knowledge of finance even if you are not planning a finance career. We explore some of these next.

Marketing and Finance If you are interested in marketing, you need to know finance because, for example, marketers constantly work with budgets, and they need to understand how to get the greatest payoff from marketing expenditures and programs. Analyzing costs and benefits of projects of all types is one of the most important aspects of finance, so the tools you learn in finance are vital in marketing research, the design of marketing and distribution channels, and product pricing, just to name a few areas.

Financial analysts rely heavily on marketing analysts, and the two frequently work together to evaluate the profitability of proposed projects and products. As we will see in a later chapter, sales projections are a key input in almost every type of new product analysis, and such projections are often developed jointly between marketing and finance.

Beyond this, the finance industry employs marketers to help sell financial products such as bank accounts, insurance policies, and mutual funds. Financial services marketing is one of the most rapidly growing types of marketing, and successful financial services marketers are very well compensated. To work in this area, you obviously need to understand financial products.

Accounting and Finance For accountants, finance is required reading. In smaller businesses in particular, accountants are often required to make financial decisions as well as perform traditional accounting duties. Further, as the financial world continues to grow more complex, accountants have to know finance to understand the implications of many of the newer types of financial contracts and the impact they have on financial statements. Beyond this, cost accounting and business finance are particularly closely related, sharing many of the same subjects and concerns.

Financial analysts make extensive use of accounting information; they are some of the most important end users. Understanding finance helps accountants recognize what types of information are particularly valuable and, more generally, how accounting information is actually used (and abused) in practice.

Management and Finance One of the most important areas in management is strategy. Thinking about business strategy without simultaneously thinking about financial strategy is an excellent recipe for disaster, and, as a result, management strategists must have a very clear understanding of the financial implications of business plans.

In broader terms, management employees of all types are expected to have a strong understanding of how their jobs impact profitability, and they are also expected to be able to work within their areas to improve profitability. This is precisely what studying finance teaches you: What are the characteristics of activities that create value?

You and Finance Perhaps the most important reason to know finance is that you will have to make financial decisions that will be very important to you personally. Today, for example, when you go to work for almost any type of company, you will be asked to decide how you want to invest your retirement funds. We'll see in a later chapter that what you choose to do can make an enormous difference in your future financial well-being. On a different note, is it your dream to start your own business? Good luck if you don't understand basic finance before you start; you'll end up learning it the hard way. Want to know how big your student loan payments are going to be before you take out that next loan? Maybe not, but we'll show you how to calculate them anyway.

These are just a few of the ways that finance will affect your personal and business lives. Whether you want to or not, you are going to have to examine and understand financial issues, and you are going to have to make financial decisions. We want you to do so wisely, so keep reading.

CONCEPT QUESTIONS

1.1a What are the major areas in finance?

1.1b Besides wanting to pass this class, why do you need to understand finance?

1.2 BUSINESS FINANCE AND THE FINANCIAL MANAGER

Now we proceed to define business finance and the financial manager's job.

What Is Business Finance?

Imagine you were to start your own business. No matter what type you started, you would have to answer the following three questions in some form or another:

1. What long-term investments should you take on? That is, what lines of business will you be in, and what sorts of buildings, machinery, and equipment will you need?

2. Where will you get the long-term financing to pay for your investments? Will you bring in other owners, or will you borrow the money?
3. How will you manage your everyday financial activities, such as collecting from customers and paying suppliers?

These are not the only questions, but they are among the most important. Business finance, broadly speaking, is the study of ways to answer these three questions. We'll be looking at each of them in the chapters ahead.

The Financial Manager

The financial management function is usually associated with a top officer of the firm, often called the chief financial officer (CFO) or vice president of finance. Figure 1.1 is a simplified organizational chart that highlights the finance activity in a large firm. As shown, the vice president of finance coordinates the activities of the treasurer and the controller. The controller's office handles cost and financial accounting, tax payments, and management information systems. The treasurer's office is responsible for managing the firm's cash and credit, its financial planning, and its capital expenditures. These treasury activities are all related to the three general questions raised above, and the chapters ahead deal primarily with these issues. Our study thus bears mostly on activities usually associated with the treasurer's office. In a smaller firm, the treasurer and controller might be the same person, and there would be only one office.

For current issues facing CFOs, see www.cfo.com.

Financial Management Decisions

As our discussion above suggests, the financial manager must be concerned with three basic types of questions. We consider these in greater detail next.

Capital Budgeting

The first question concerns the firm's long-term investments. The process of planning and managing a firm's long-term investments is called **capital budgeting**. In capital budgeting, the financial manager tries to identify investment opportunities that are worth more to the firm than they cost to acquire. Loosely speaking, this means that the value of the cash flow generated by an asset exceeds the cost of that asset.

capital budgeting
The process of planning and managing a firm's long-term investments.

Regardless of the specific investment under consideration, financial managers must be concerned with how much cash they expect to receive, when they expect to receive it, and how likely they are to receive it. Evaluating the *size, timing,* and *risk* of future cash flows is the essence of capital budgeting. In fact, whenever we evaluate a business decision, the size, timing, and risk of the cash flows will be, by far, the most important things we will consider.

Capital Structure

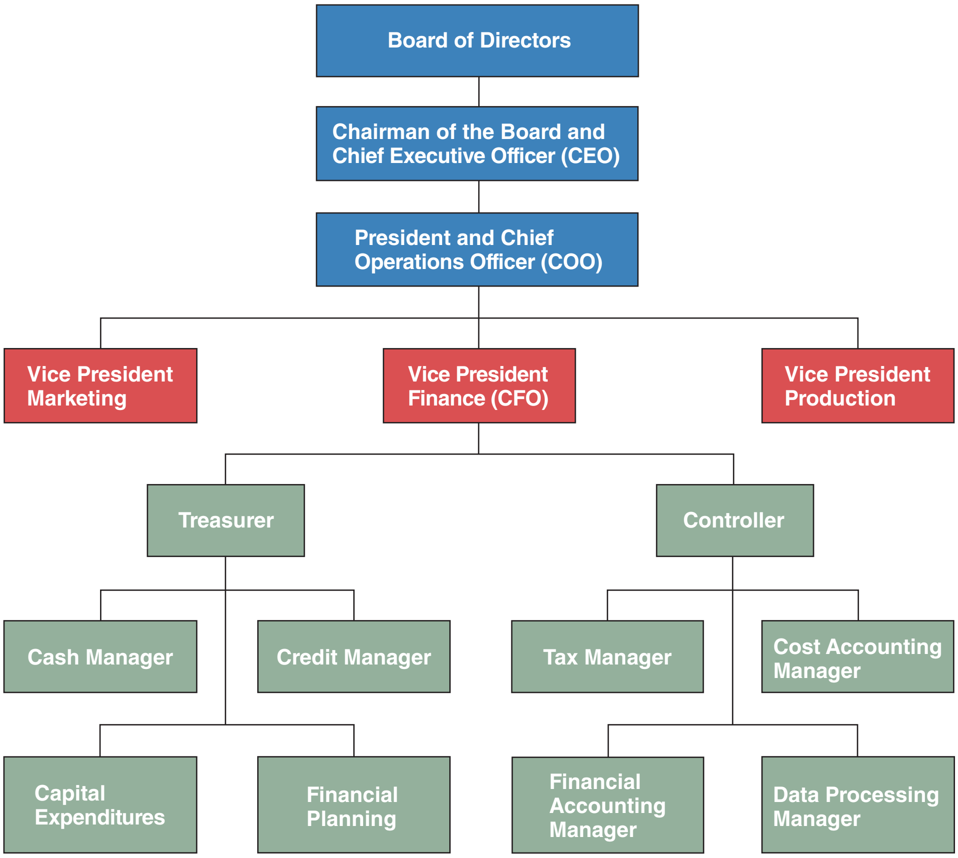
The second question for the financial manager concerns how the firm obtains the financing it needs to support its long-term investments. A firm's **capital structure** (or financial structure) refers to the specific mixture of long-term debt and equity the firm uses to finance its operations. The financial manager has two concerns in this area. First: How much should the firm borrow? Second: What are the least expensive sources of funds for the firm?

capital structure
The mixture of debt and equity maintained by a firm.

In addition to deciding on the financing mix, the financial manager has to decide exactly how and where to raise the money. The expenses associated with raising long-term financing can be considerable, so different possibilities must be carefully evaluated. Also,

FIGURE 1.1

A simplified organizational chart. The exact titles and organization differ from company to company



businesses borrow money from a variety of lenders in a number of different ways. Choosing among lenders and among loan types is another job handled by the financial manager.

working capital
A firm's short-term assets and liabilities.

Working Capital Management The third question concerns **working capital** management. The term *working capital* refers to a firm's short-term assets, such as inventory, and its short-term liabilities, such as money owed to suppliers. Managing the firm's working capital is a day-to-day activity that ensures the firm has sufficient resources to continue its operations and avoid costly interruptions. This involves a number of activities related to the firm's receipt and disbursement of cash.

Some questions about working capital that must be answered are the following: (1) How much cash and inventory should we keep on hand? (2) Should we sell on credit to our customers? (3) How will we obtain any needed short-term financing? If we borrow in the short term, how and where should we do it? This is just a small sample of the issues that arise in managing a firm's working capital.

Conclusion The three areas of corporate financial management we have described—capital budgeting, capital structure, and working capital management—are very broad categories. Each includes a rich variety of topics, and we have indicated only a few of the questions that arise in the different areas. The chapters ahead contain greater detail.

CONCEPT QUESTIONS

1.2a What is the capital budgeting decision?

1.2b What do you call the specific mixture of long-term debt and equity that a firm chooses to use?

1.2c Into what category of financial management does cash management fall?

FORMS OF BUSINESS ORGANIZATION

1.3

Large firms in the United States, such as IBM and Apple, are almost all organized as corporations. We examine the three different legal forms of business organization—sole proprietorship, partnership, and corporation—to see why this is so.

Sole Proprietorship

A **sole proprietorship** is a business owned by one person. This is the simplest type of business to start and is the least regulated form of organization. For this reason, there are more proprietorships than any other type of business, and many businesses that later become large corporations start out as small proprietorships.

sole proprietorship
A business owned by a single individual.

The owner of a sole proprietorship keeps all the profits. That's the good news. The bad news is that the owner has *unlimited liability* for business debts. This means that creditors can look to the proprietor's personal assets for payment. Similarly, there is no distinction between personal and business income, so all business income is taxed as personal income.

For more information on forms of business organization, visit www.nolo.com.

The life of a sole proprietorship is limited to the owner's life span, and, importantly, the amount of equity that can be raised is limited to the proprietor's personal wealth. This limitation often means that the business is unable to exploit new opportunities because of insufficient capital. Ownership of a sole proprietorship may be difficult to transfer since this requires the sale of the entire business to a new owner.

Partnership

A **partnership** is similar to a proprietorship, except that there are two or more owners (partners). In a *general partnership*, all the partners share in gains or losses, and all have unlimited liability for all partnership debts, not just some particular share. The way partnership gains (and losses) are divided is described in the *partnership agreement*. This agreement can be an informal oral agreement, such as "let's start a lawn mowing business," or a lengthy, formal written document.

partnership
A business formed by two or more individuals or entities.

In a *limited partnership*, one or more *general partners* will run the business and have unlimited liability, but there will be one or more *limited partners* who do not actively participate in the business. A limited partner's liability for business debts is limited to the amount that partner contributes to the partnership. This form of organization is common in real estate ventures, for example.

The advantages and disadvantages of a partnership are basically the same as those for a proprietorship. Partnerships based on a relatively informal agreement are easy and inexpensive to form. General partners have unlimited liability for partnership debts, and the partnership terminates when a general partner wishes to sell out or dies. All income is taxed as personal income to the partners, and the amount of equity that can be raised is limited to the partners' combined wealth. Ownership by a general partner is not easily transferred because a new partnership must be formed. A limited partner's interest can be sold without dissolving the partnership, but finding a buyer may be difficult.

Because a partner in a general partnership can be held responsible for all partnership debts, having a written agreement is very important. Failure to spell out the rights and duties of the partners frequently leads to misunderstandings later on. Also, if you are a limited partner, you must not become deeply involved in business decisions unless you are willing to assume the obligations of a general partner. The reason is that if things go badly, you may be deemed to be a general partner even though you say you are a limited partner.

Based on our discussion, the primary disadvantages of sole proprietorships and partnerships as forms of business organization are (1) unlimited liability for business debts on the part of the owners, (2) limited life of the business, and (3) difficulty of transferring ownership. These three disadvantages add up to a single, central problem: The ability of such businesses to grow can be seriously limited by an inability to raise cash for investment.

Corporation

corporation
A business created as a distinct legal entity owned by one or more individuals or entities.

The **corporation** is the most important form (in terms of size) of business organization in the United States. A corporation is a legal "person" separate and distinct from its owners, and it has many of the rights, duties, and privileges of an actual person. Corporations can borrow money and own property, can sue and be sued, and can enter into contracts. A corporation can even be a general partner or a limited partner in a partnership, and a corporation can own stock in another corporation.

Not surprisingly, starting a corporation is somewhat more complicated than starting the other forms of business organization. Forming a corporation involves preparing *articles of incorporation* (or a charter) and a set of *bylaws*. The articles of incorporation must contain a number of things, including the corporation's name, its intended life (which can be forever), its business purpose, and the number of shares that can be issued. This information must normally be supplied to the state in which the firm will be incorporated. For most legal purposes, the corporation is a "resident" of that state.

The bylaws are rules describing how the corporation regulates its own existence. For example, the bylaws describe how directors are elected. The bylaws may be amended or extended from time to time by the stockholders.

In a large corporation, the stockholders and the managers are usually separate groups. The stockholders elect the board of directors, who then select the managers. Management is charged with running the corporation's affairs in the stockholders' interests. In principle, stockholders control the corporation because they elect the directors.

As a result of the separation of ownership and management, the corporate form has several advantages. Ownership (represented by shares of stock) can be readily transferred, and the life of the corporation is therefore not limited. The corporation borrows money in its own name. As a result, the stockholders in a corporation have limited liability for corporate debts. The most they can lose is what they have invested.

The relative ease of transferring ownership, the limited liability for business debts, and the unlimited life of the business are the reasons why the corporate form is superior when it comes to raising cash. If a corporation needs new equity, it can sell new shares of stock and attract new investors. The number of owners can be huge; larger corporations have many thousands or even millions of stockholders. For example, the General Electric Company (better known as GE) has about 10 billion shares outstanding and 4 million shareholders.

The corporate form has a significant disadvantage. Since a corporation is a legal person, it must pay taxes. Moreover, money paid out to stockholders in the form of dividends is taxed again as income to those stockholders. This is *double taxation,* meaning that corporate profits are taxed twice: at the corporate level when they are earned and again at the personal level when they are paid out.

Today all 50 states have enacted laws allowing for the creation of a relatively new form of business organization, the limited liability company (LLC). The goal of this entity is to operate and be taxed like a partnership but retain limited liability for owners, so an LLC is essentially a hybrid of a partnership and a corporation. Although states have differing definitions for LLCs, the more important scorekeeper is the Internal Revenue Service (IRS). The IRS will consider an LLC a corporation, thereby subjecting it to double taxation, unless it meets certain specific criteria. In essence, an LLC cannot be too corporationlike, or it will be treated as one by the IRS. LLCs have become common. For example, Goldman Sachs, one of Wall Street's last remaining partnerships, decided to convert from a private partnership to an LLC (it later "went public," becoming a publicly held corporation). Large accounting firms and law firms by the score have converted to LLCs.

A Corporation by Another Name . . .

The corporate form has many variations around the world. Exact laws and regulations differ, of course, but the essential features of public ownership and limited liability remain. These firms are often called *joint stock companies, public limited companies,* or *limited liability companies*.

Table 1.1 gives the names of a few well-known international corporations, their country of origin, and a translation of the abbreviation that follows the company name.

Company	Country of Origin	Type of Company	Translation
Bayerische Motoren Werke (BMW) AG	Germany	Aktiengesellschaft	Corporation
Montblanc GmbH	Germany	Gesellschaft mit beschränkter Haftung	Company with limited liability
Rolls-Royce PLC	United Kingdom	Public limited company	Public limited company
Shell UK Ltd.	United Kingdom	Limited	Corporation
Unilever NV	Netherlands	Naamloze Vennootschap	Limited liability company
Fiat SpA	Italy	Società per Azioni	Public limited company
Saab AB	Sweden	Aktiebolag	Joint stock company
Peugeot SA	France	Société Anonyme	Joint stock company

TABLE 1.1

International corporations

You can find the translation for any business type at www.corporateinformation.com.