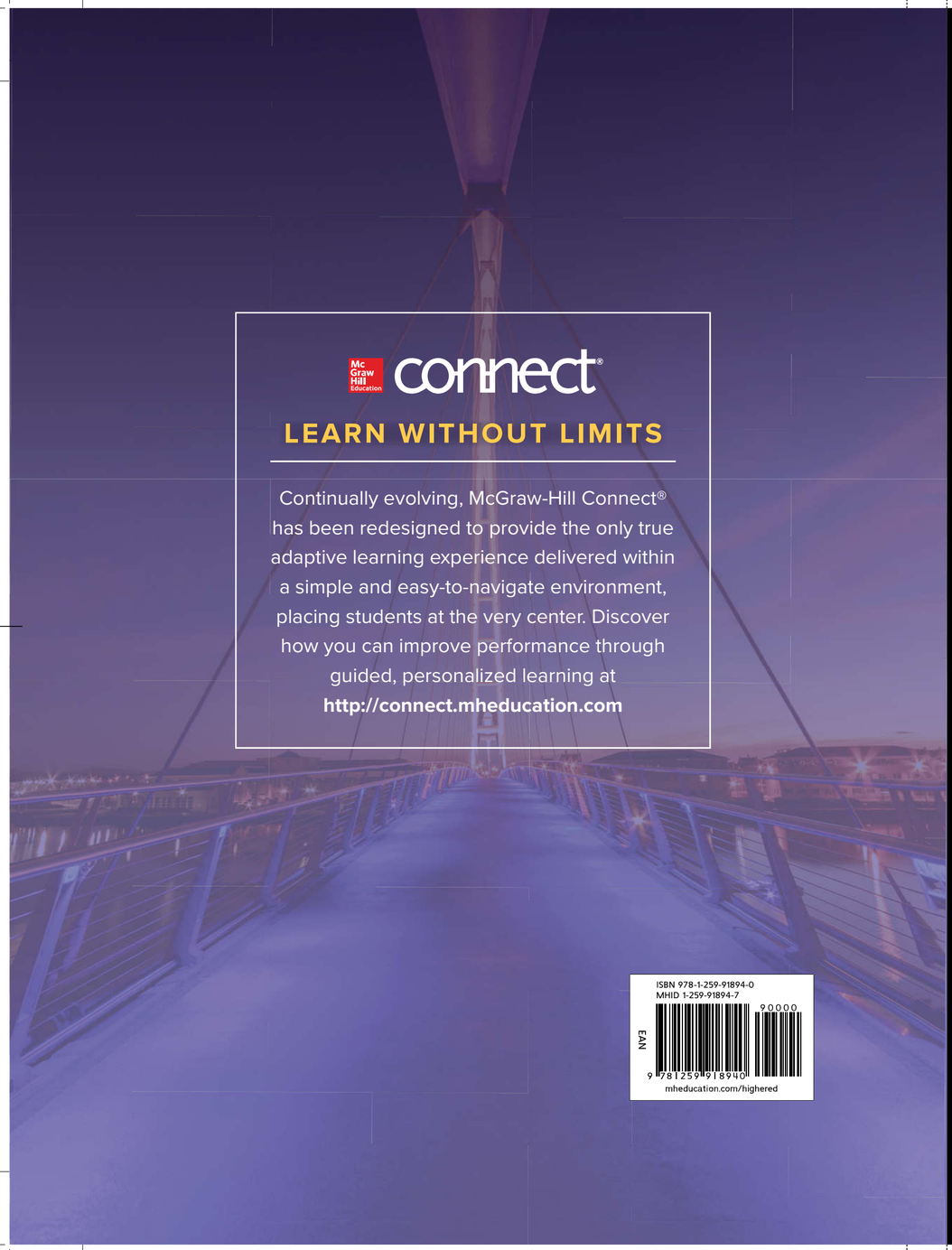

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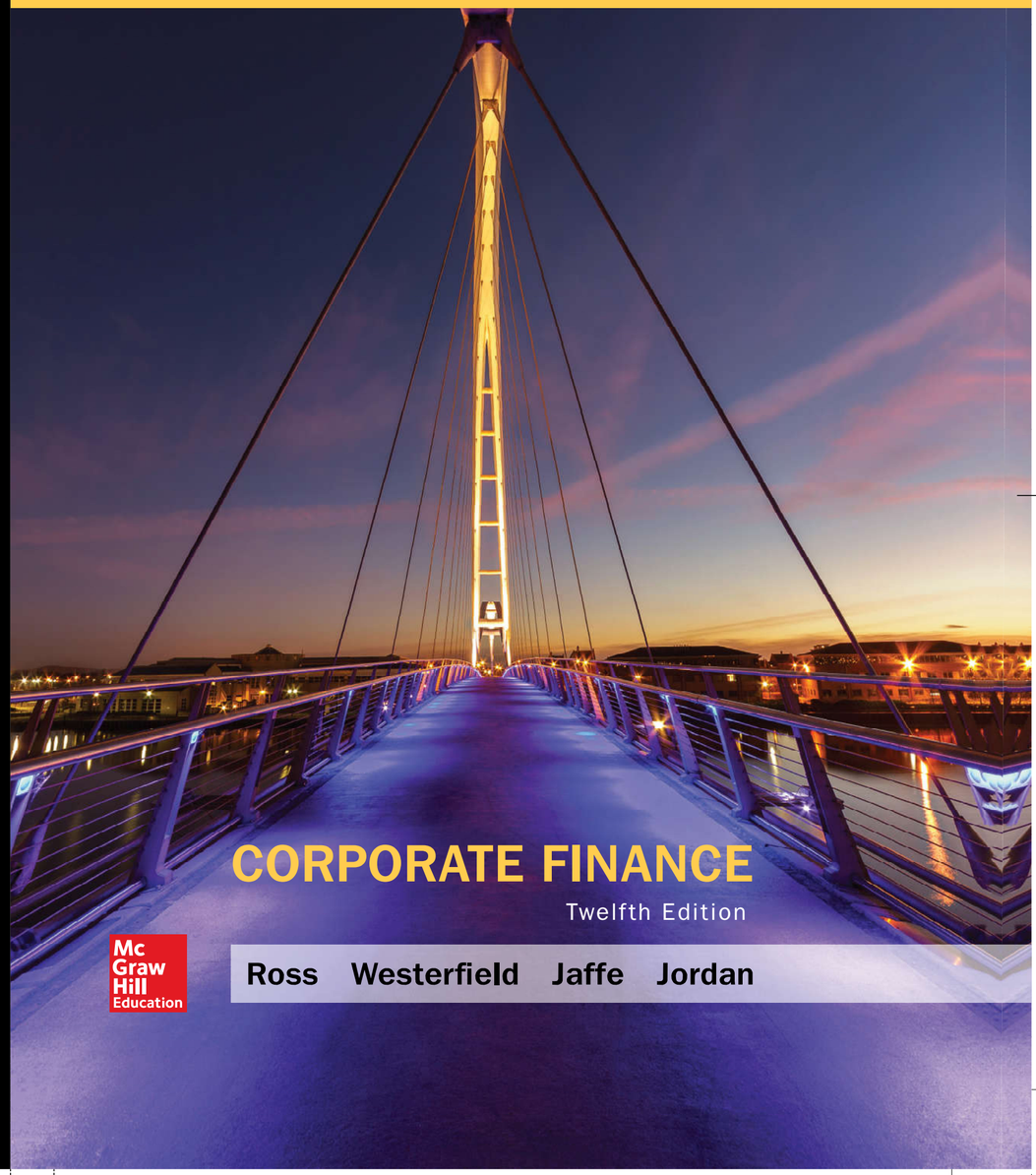

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To Stephen A. Ross and family

Our great friend, colleague, and coauthor Steve Ross passed away on March 3, 2017, while we were working on this edition of *Corporate Finance*. Steve's influence on our textbook is seminal, deep, and enduring, and we will miss him greatly. On the foundation of Steve's lasting and invaluable contributions, we pledge to continue our efforts to provide the best possible textbook for today—and tomorrow.

R.W.W. J.F.J B.D.J.

About the Authors

STEPHEN A. ROSS *Sloan School of Management, Massachusetts Institute of Technology* Stephen A. Ross was the Franco Modigliani Professor of Finance and Economics at the Sloan School of Management, Massachusetts Institute of Technology. One of the most widely published authors in finance and economics, Professor Ross was widely recognized for his work in developing the Arbitrage Pricing Theory and his substantial contributions to the discipline through his research in signaling, agency theory, option pricing, and the theory of the term structure of interest rates, among other topics. A past president of the American Finance Association, he also served as an associate editor of several academic and practitioner journals. He was a trustee of CalTech. He died suddenly in March of 2017.

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BRADFORD D. JORDAN *Gatton College of Business and Economics, University of Kentucky* Bradford D. Jordan is Professor of Finance and holder of the duPont Endowed Chair in Banking and Financial Services. He has a long-standing interest in both applied and theoretical issues in corporate finance and has extensive experience teaching all levels of corporate finance and financial management policy. Professor Jordan has published numerous articles on issues such as cost of capital, capital structure, and the behavior of security prices. He is a past president of the Southern Finance Association and is coauthor of *Fundamentals of Investments: Valuation and Management,* 8th edition, a leading investments text, also published by McGraw-Hill Education.

Preface

The teaching and the practice of corporate finance are more challenging and exciting than ever before. The last decade has seen fundamental changes in financial markets and financial instruments. In the early years of the 21st century, we still see announcements in the financial press about takeovers, junk bonds, financial restructuring, initial public offerings, bankruptcies, and derivatives. In addition, there are the new recognitions of "real" options, private equity and venture capital, subprime mortgages, bailouts, and credit spreads. As we have learned in the recent global credit crisis and stock market collapse, the world's financial markets are more integrated than ever before. Both the theory and practice of corporate finance have been moving ahead with uncommon speed, and our teaching must keep pace.

These developments have placed new burdens on the teaching of corporate finance. On one hand, the changing world of finance makes it more difficult to keep materials up to date. On the other hand, the teacher must distinguish the permanent from the temporary and avoid the temptation to follow fads. Our solution to this problem is to emphasize the modern fundamentals of the theory of finance and make the theory come to life with contemporary examples. Increasingly, many of these examples are outside the United States.

All too often, the beginning student views corporate finance as a collection of unrelated topics that are unified largely because they are bound together between the covers of one book. We want our book to embody and reflect the main principle of finance: Namely, good financial decisions will add value to the firm and to shareholders and bad financial decisions will destroy value. The key to understanding how value is added or destroyed is cash flows. To add value, firms must generate more cash than they use. We hope this simple principle is manifest in all parts of this book.

The Intended Audience of This Book

This book has been written for the introductory courses in corporate finance at the MBA level and for the intermediate courses in many undergraduate programs. Some instructors will find our text appropriate for the introductory course at the undergraduate level as well.

We assume that most students either will have taken, or will be concurrently enrolled in, courses in accounting, statistics, and economics. This exposure will help students understand some of the more difficult material. However, the book is self-contained, and a prior knowledge of these areas is not essential. The only mathematics prerequisite is basic algebra.

New to 12th Edition

THE TAX CUTS AND JOBS ACT (TCJA) IS INCORPORATED THROUGHOUT

There are six primary areas of change and they will be reflected in the 12th edition:

1. Corporate tax. The new, flat-rate 21 percent corporate rate is discussed and compared to the old progressive system. The new rate is used throughout the text in examples and problems. Entities other than C corporations still face progressive taxation, so the discussion of marginal versus average tax rates remains relevant and is retained.

2. Bonus depreciation. For a limited time, businesses can take a 100 percent depreciation charge the first year for most non-real estate, MACRS-qualified investments. This "bonus depreciation" ends in a few years and MACRS returns, so the MACRS material remains relevant and is retained. The impact of bonus depreciation is illustrated in various problems.
3. Limitations on interest deductions. The amount of interest that may be deducted for tax purposes is limited. Interest that cannot be deducted can be carried forward to future tax years (but not carried back; see next).
4. Carrybacks. Net operating loss (NOL) carrybacks have been eliminated and NOL carryforward deductions are limited in any one tax year.
5. Dividends-received tax break. The tax break on dividends received by a corporation has been reduced, meaning that the portion subject to taxation has increased.
6. Repatriation. The distinction between U.S. and non-U.S. profits essentially has been eliminated. All "overseas" assets, both liquid and illiquid, are subject to a one-time "deemed" tax.

With the 12th edition, we've also included coverage of

- Inversions.
- Negative interest rates.
- NYSE market operations.
- Direct listings and cryptocurrency initial coin offerings (ICOs).
- Regulation CF.
- Brexit.
- Repatriation.
- Changes in lease accounting.

In addition, each chapter has been updated and, where relevant, "internationalized." We try to capture the excitement of corporate finance with current examples, chapter vignettes, and openers. Spreadsheet applications are spread throughout.

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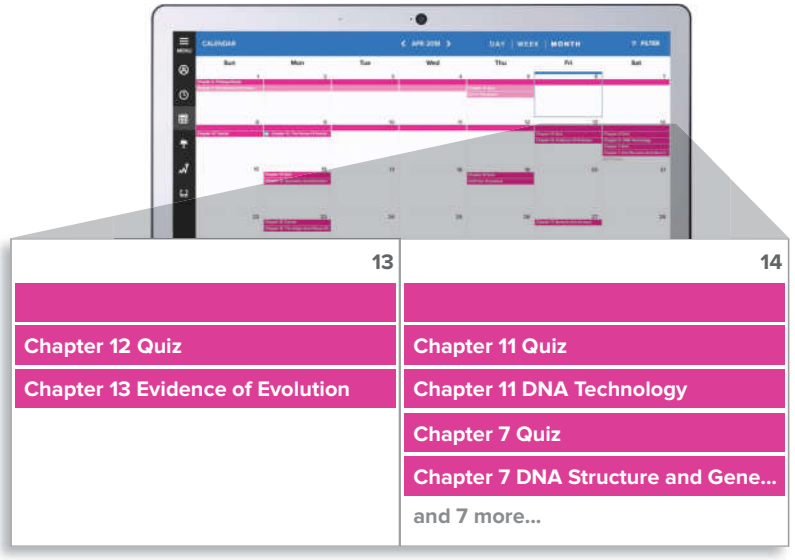

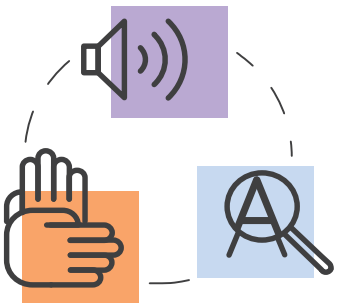

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Pedagogy

In this edition of *Corporate Finance*, we have updated and improved our features to present material in a way that makes it coherent and easy to understand. In addition, *Corporate Finance* is rich in valuable learning tools and support to help students succeed in learning the fundamentals of financial management.

Chapter Opening Vignettes

Each chapter begins with a contemporary vignette that highlights the concepts in the chapter and their relevance to real-world examples.

10

PART III: RISK

Lessons from Market History

With the S&P 500 Index returning about 19 percent and the NASDAQ Composite Index up about 28 percent in 2017, stock market performance overall was very good. In particular, investors in biopharmaceutical company Madrigal Pharmaceuticals, Inc., had to be happy about the 516 percent gain in that stock and investors in genomic therapy company Sangamo Therapeutics had to feel pretty good following that company's 438 percent gain. Of course, not all stocks increased in value during the year. Stock in Sears Holdings fell 61 percent during the year and stock in Under Armour dropped 48 percent.

These examples show that there were tremendous potential profits to be made during 2017, but there was also the risk of losing money—and lots of it. So what should you, as a stock market investor, expect when you invest your own money? In this chapter, we study more than eight decades of market history to find out.

Please visit us at rwjcorporatefinance.blogspot.com for the latest developments in the world of corporate finance.

10.1 Returns

DOLLAR RETURNS

Excel Master coverage online

How did the market do today? Find out at finance.yahoo.com

Suppose the Video Concept Company has several thousand shares of stock outstanding and you are a shareholder. Further suppose that you purchased some of the shares of stock in the company at the beginning of the year; it is now year-end and you want to figure out how well you have done on your investment. The return you get on an investment in stocks, like that in bonds or any other investment, comes in two forms.

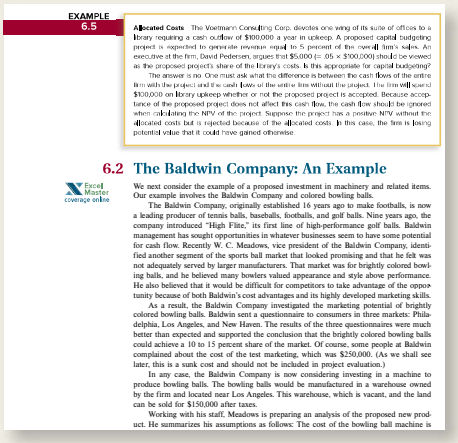
As the owner of stock in the Video Concept Company, you are a part owner of the company. If the company is profitable, it generally could distribute some of its profits to the shareholders. Therefore, as the owner of shares of stock, you could receive some cash, called a *dividend*, during the year. This cash is the *income component* of your return. In addition to the dividends, the other part of your return is the *capital gain*—or, if it is negative, the *capital loss* (negative capital gain)—on the investment.

For example, suppose we are considering the cash flows of the investment in Figure 10.1, showing that you purchased 100 shares of stock at the beginning of the year at a price of $37 per share. Your total investment, then, was:

$$C_0 = \$37 \times 100 = \$3{,}700$$

ExcelMaster Icons

Topics covered in the comprehensive ExcelMaster supplement (in Connect) are indicated by an icon in the margin.



EXAMPLE 6.5

Allocated Costs The Voelmann Consulting Corp. devotes one wing of its suite of offices to a library requiring a cash outflow of $100,000 a year in upkeep. A proposed capital budgeting project is expected to generate revenue equal to 5 percent of the overall firm's sales. An executive at the firm, David Pedersen, argues that $5,000 (= .05 × $100,000) should be viewed as the proposed project's share of the library's costs. Is this appropriate for capital budgeting?

The answer is no. One must ask what the difference is between the cash flows of the entire firm with the project and the cash flows of the entire firm without the project. The firm will spend $100,000 on library upkeep whether or not the proposed project is accepted. Because acceptance of the proposed project does not affect this cash flow, the cash flow should be ignored when calculating the NPV of the project. Suppose the project has a positive NPV without the allocated costs but is rejected because of the allocated costs. In this case, the firm is losing potential value that it could have gained otherwise.

6.2 The Baldwin Company: An Example

Excel Master coverage online

We next consider the example of a proposed investment in machinery and related items. Our example involves the Baldwin Company and colored bowling balls.

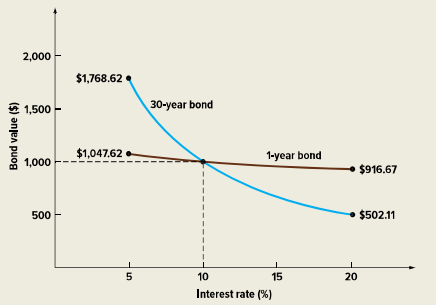
The Baldwin Company, originally established 16 years ago to make footballs, is now a leading producer of tennis balls, baseballs, footballs, and golf balls. Nine years ago, the company introduced "High Flite," its first line of high-performance golf balls. Baldwin management has sought opportunities in whatever businesses seem to have some potential for cash flow. Recently W. C. Meadows, vice president of the Baldwin Company, identified another segment of the sports ball market that looked promising and that he felt was not adequately served by larger manufacturers. That market was for brightly colored bowling balls, and he believed many bowlers valued appearance and style above performance. He also believed that it would be difficult for competitors to take advantage of the opportunity because of both Baldwin's cost advantages and its highly developed marketing skills.

As a result, the Baldwin Company investigated the marketing potential of brightly colored bowling balls. Baldwin sent a questionnaire to consumers in three markets: Philadelphia, Los Angeles, and New Haven. The results of the three questionnaires were much better than expected and supported the conclusion that the brightly colored bowling balls could achieve a 10 to 15 percent share of the market. Of course, some people at Baldwin complained about the cost of the test marketing, which was $250,000. (As we shall see later, this is a sunk cost and should not be included in project evaluation.)

In any case, the Baldwin Company is now considering investing in a machine to produce bowling balls. The bowling balls would be manufactured in a warehouse owned by the firm and located near Los Angeles. This warehouse, which is vacant, and the land can be sold for $150,000 after taxes.

Working with his staff, Meadows is preparing an analysis of the proposed new product. He summarizes his assumptions as follows: The cost of the bowling ball machine is

Figure 8.2
Interest Rate Risk and Time to Maturity



Value of a Bond with a 10 Percent Coupon Rate for Different Interest Rates and Maturities

	Time to Maturity	
Interest Rate	1 Year	30 Years
5%	$1,047.62	$1,768.62
10	1,000.00	1,000.00
15	956.52	671.70
20	916.67	502.11

tells us that a relatively small change in interest rates will lead to a substantial change in the bond's value. In comparison, the 1-year bond's price is relatively insensitive to interest rate changes.

Intuitively, shorter-term bonds have less interest rate sensitivity because the $1,000 face amount is received so quickly. The present value of this amount isn't greatly affected by a small change in interest rates if the amount is received in, say, one year. However, even a small change in the interest rate, once compounded for, say, 30 years, can have a significant effect on present value. As a result, the present value of the face amount will be much more volatile with a longer-term bond.

Figures and Tables

This text makes extensive use of real data and presents them in various figures and tables. Explanations in the narrative, examples, and end-of-chapter problems will refer to many of these exhibits.

Examples

Separate called-out examples are integrated throughout the chapters. Each example illustrates an intuitive or mathematical application in a step-by-step format. There is enough detail in the explanations so students don't have to look elsewhere for additional information.

EXAMPLE 9.5

Calculating the Required Return Pagemaster Enterprises, the company examined in Example 9.4, has 1,000,000 shares of stock outstanding. The stock is selling at $10. What is the required return on the stock?

The payout ratio is the ratio of dividends/earnings. Because Pagemaster's retention ratio is 40 percent, the payout ratio, which is 1 – Retention ratio, is 60 percent. Recall both that Pagemaster reported earnings of $2,000,000 and that the firm's growth rate is 6.4 percent.

Earnings a year from now will be $2,128,000 (= $2,000,000 × 1.064), implying that dividends will be $1,276,800 (= .60 × $2,128,000). Dividends per share will be $1.28 (= $1,276,800/1,000,000). Given that g = .064, we calculate R from Equation 9.9 as follows:

$$.192 = \frac{\$1.28}{\$10.00} + .064$$

In Their Own Words

ROBERT C. HIGGINS ON SUSTAINABLE GROWTH

Most financial officers know intuitively that it takes money to make money. Rapid sales growth requires increased assets in the form of accounts receivable, inventory, and fixed plant, which, in turn, require money to pay for assets. They also know that if their company does not have the money when needed, it can literally "grow broke." The sustainable growth equation states these intuitive truths explicitly.

Sustainable growth is often used by bankers and other external analysts to assess a company's creditworthiness. They are aided in this exercise by several sophisticated computer software packages that provide detailed analyses of the company's past financial performance, including its annual sustainable growth rate.

Bankers use this information in several ways. Quick comparison of a company's actual growth rate to its sustainable rate tells the banker what issues will be at the top of management's financial agenda. If actual growth consistently exceeds sustainable growth, management's problem will be where to get the cash to finance growth. The banker thus can anticipate interest in loan products. Conversely, if sustainable growth consistently exceeds actual, the banker had best be prepared to talk about investment products because management's problem will be what to do with all the cash that keeps piling up in the till.

Bankers also find the sustainable growth equation useful for explaining to financially inexperienced small business owners and overly optimistic entrepreneurs that, for the long-run viability of their business, it is necessary to keep growth and profitability in proper balance.

Finally, comparison of actual to sustainable growth rates helps a banker understand why a loan applicant needs money and for how long the need might continue. In one instance, a loan applicant requested $100,000 to pay off several insistent suppliers and promised to repay in a few months when he collected some accounts receivable that were coming due. A sustainable growth analysis revealed that the firm had been growing at four to six times its sustainable growth rate and that this pattern was likely to continue in the foreseeable future. This alerted the banker that impatient suppliers were only a symptom of the much more fundamental disease of overly rapid growth, and that a $100,000 loan would likely prove to be only the down payment on a much larger, multiyear commitment.

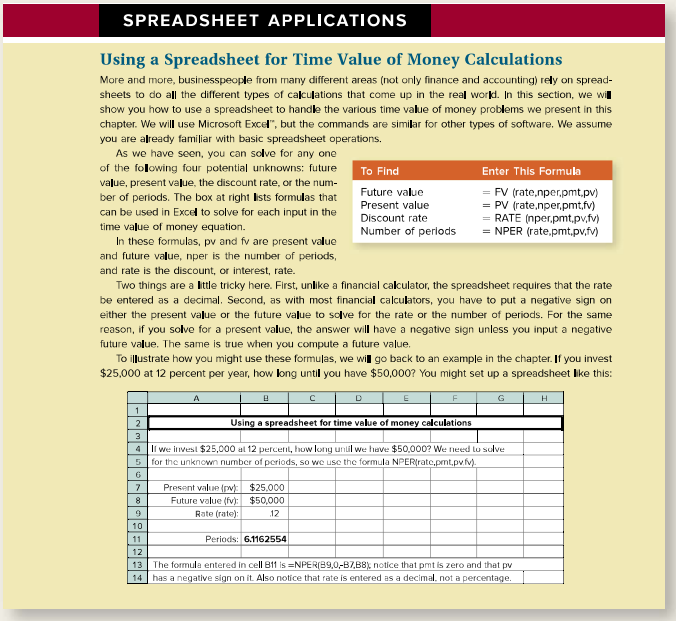
SOURCE: Robert C. Higgins is the Marguerite Reimers Professor of Finance, Emeritus, at the Foster School of Business at the University of Washington. He pioneered the use of sustainable growth as a tool for financial analysis.

"In Their Own Words" Boxes

Located throughout the chapters, this unique series consists of articles written by distinguished scholars or practitioners about key topics in the text. Boxes include essays by Edward I. Altman, Robert S. Hansen, Robert C. Higgins, Michael C. Jensen, Merton Miller, and Jay R. Ritter.

Spreadsheet Applications

Now integrated into select chapters, Spreadsheet Applications boxes reintroduce students to Excel, demonstrating how to set up spreadsheets in order to analyze common financial problems—a vital part of every business student's education. (For even more spreadsheet example problems, check out ExcelMaster in Connect).



SPREADSHEET APPLICATIONS

Using a Spreadsheet for Time Value of Money Calculations

More and more, businesspeople from many different areas (not only finance and accounting) rely on spreadsheets to do all the different types of calculations that come up in the real world. In this section, we will show you how to use a spreadsheet to handle the various time value of money problems we present in this chapter. We will use Microsoft Excel®, but the commands are similar for other types of software. We assume you are already familiar with basic spreadsheet operations.

As we have seen, you can solve for any one of the following four potential unknowns: future value, present value, the discount rate, or the number of periods. The box at right lists formulas that can be used in Excel to solve for each input in the time value of money equation.

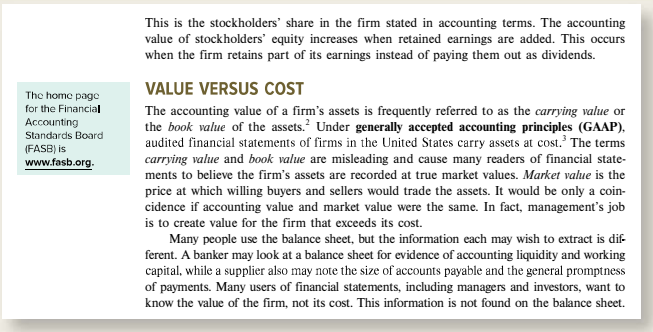
To Find	Enter This Formula
Future value	= FV (rate,nper,pmt,pv)
Present value	= PV (rate,nper,pmt,fv)
Discount rate	= RATE (nper,pmt,pv,fv)
Number of periods	= NPER (rate,pmt,pv,fv)

In these formulas, pv and fv are present value and future value, nper is the number of periods, and rate is the discount, or interest, rate.

Two things are a little tricky here. First, unlike a financial calculator, the spreadsheet requires that the rate be entered as a decimal. Second, as with most financial calculators, you have to put a negative sign on either the present value or the future value to solve for the rate or the number of periods. For the same reason, if you solve for a present value, the answer will have a negative sign unless you input a negative future value. The same is true when you compute a future value.

To illustrate how you might use these formulas, we will go back to an example in the chapter. If you invest $25,000 at 12 percent per year, how long until you have $50,000? You might set up a spreadsheet like this:

	A	B	C	D	E	F	G	H
1								
2	**Using a spreadsheet for time value of money calculations**							
3								
4	If we invest $25,000 at 12 percent, how long until we have $50,000? We need to solve							
5	for the unknown number of periods, so we use the formula NPER(rate,pmt,pv,fv).							
6								
7	Present value (pv):	$25,000						
8	Future value (fv):	$50,000						
9	Rate (rate):	.12						
10								
11	Periods:	**6.116255**						
12								
13	The formula entered in cell B11 is =NPER(B9,0,-B7,B8); notice that pmt is zero and that pv							
14	has a negative sign on it. Also notice that rate is entered as a decimal, not a percentage.							



This is the stockholders' share in the firm stated in accounting terms. The accounting value of stockholders' equity increases when retained earnings are added. This occurs when the firm retains part of its earnings instead of paying them out as dividends.

The home page for the Financial Accounting Standards Board (FASB) is **www.fasb.org**.

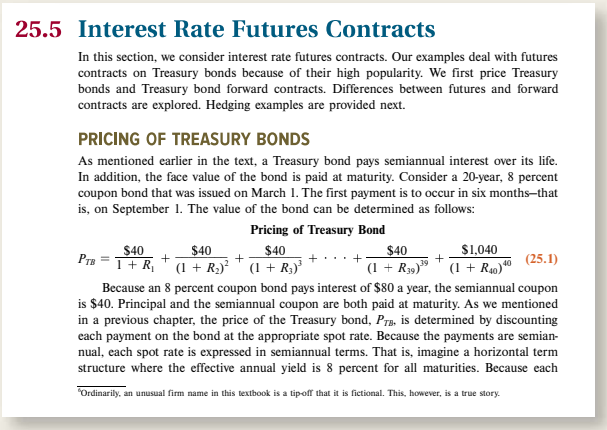
VALUE VERSUS COST

The accounting value of a firm's assets is frequently referred to as the *carrying value* or the *book value* of the assets.[2] Under **generally accepted accounting principles (GAAP)**, audited financial statements of firms in the United States carry assets at cost.[3] The terms *carrying value* and *book value* are misleading and cause many readers of financial statements to believe the firm's assets are recorded at true market values. *Market value* is the price at which willing buyers and sellers would trade the assets. It would be only a coincidence if accounting value and market value were the same. In fact, management's job is to create value for the firm that exceeds its cost.

Many people use the balance sheet, but the information each may wish to extract is different. A banker may look at a balance sheet for evidence of accounting liquidity and working capital, while a supplier also may note the size of accounts payable and the general promptness of payments. Many users of financial statements, including managers and investors, want to know the value of the firm, not its cost. This information is not found on the balance sheet.

Explanatory Website Links

These web links are specifically selected to accompany text material and provide students and instructors with a quick reference to additional information on the Internet.



25.5 Interest Rate Futures Contracts

In this section, we consider interest rate futures contracts. Our examples deal with futures contracts on Treasury bonds because of their high popularity. We first price Treasury bonds and Treasury bond forward contracts. Differences between futures and forward contracts are explored. Hedging examples are provided next.

PRICING OF TREASURY BONDS

As mentioned earlier in the text, a Treasury bond pays semiannual interest over its life. In addition, the face value of the bond is paid at maturity. Consider a 20-year, 8 percent coupon bond that was issued on March 1. The first payment is to occur in six months—that is, on September 1. The value of the bond can be determined as follows:

Pricing of Treasury Bond

$$P_{TB} = \frac{\$40}{1 + R_1} + \frac{\$40}{(1 + R_2)^2} + \frac{\$40}{(1 + R_3)^3} + \cdots + \frac{\$40}{(1 + R_{39})^{39}} + \frac{\$1{,}040}{(1 + R_{40})^{40}} \quad (25.1)$$

Because an 8 percent coupon bond pays interest of $80 a year, the semiannual coupon is $40. Principal and the semiannual coupon are both paid at maturity. As we mentioned in a previous chapter, the price of the Treasury bond, P_{TB}, is determined by discounting each payment on the bond at the appropriate spot rate. Because the payments are semiannual, each spot rate is expressed in semiannual terms. That is, imagine a horizontal term structure where the effective annual yield is 8 percent for all maturities. Because each

[2]Ordinarily, an unusual firm name in this textbook is a tip-off that it is fictional. This, however, is a true story.

Numbered Equations

Key equations are numbered and listed on the back endsheets for easy reference.

The end-of-chapter material reflects and builds upon the concepts learned from the chapter and study features.

Summary and Conclusions

1. Firms hedge to reduce risk. This chapter showed a number of hedging strategies.
2. A forward contract is an agreement by two parties to sell an item for cash at a later date. The price is set at the time the agreement is signed. However, cash changes hands on the date of delivery. Forward contracts are generally not traded on organized exchanges.
3. Futures contracts are also agreements for future delivery. They have certain advantages, such as liquidity, that forward contracts do not. An unusual feature of futures contracts is the mark-to-the-market convention. If the price of a futures contract falls on a particular day, every buyer of the contract must pay money to the clearinghouse. Every seller of the contract receives money from the clearinghouse. Everything is reversed if the price rises. The mark-to-the-market convention prevents defaults on futures contracts.
4. We divided hedges into two types: short hedges and long hedges. An individual or firm that sells a futures contract to reduce risk is instituting a short hedge. Short hedges are generally appropriate for holders of inventory. An individual or firm that buys a futures contract to reduce risk is instituting a long hedge. Long hedges are typically used by firms with contracts to sell finished goods at a fixed price.
5. An interest rate futures contract employs a bond as the deliverable instrument. Because of their popularity, we worked with Treasury bond futures contracts. We showed that Treasury bond futures contracts can be priced using the same type of net present value analysis that is used to price Treasury bonds themselves.
6. Many firms face interest rate risk. They can reduce this risk by hedging with interest rate futures contracts. As with other commodities, a short hedge involves the sale of a futures contract. Firms that are committed to buying mortgages or other bonds are likely to institute short hedges. A long hedge involves the purchase of a futures contract. Firms that have agreed to sell mortgages or other bonds at a fixed price are likely to institute long hedges.
7. Duration measures the average maturity of all the cash flows of a bond. Bonds with high duration have high price variability. Firms frequently try to match the duration of their assets with the duration of their liabilities.
8. Swaps are agreements to exchange cash flows over time. The first major type is an interest rate swap in which one pattern of coupon payments, say, fixed payments, is exchanged for another, say, coupons that float with LIBOR. The second major type is a currency swap, in which an agreement is struck to swap payments denominated in one currency for payments in another currency over time.

Concept Questions

1. **Hedging Strategies** If a firm is selling futures contracts on lumber as a hedging strategy, what must be true about the firm's exposure to lumber prices?
2. **Hedging Strategies** If a firm is buying call options on pork belly futures as a hedging strategy, what must be true about the firm's exposure to pork belly prices?
3. **Forwards and Futures** What is the difference between a forward contract and a futures contract? Why do you think that futures contracts are much more common? Are there any circumstances under which you might prefer to use forwards instead of futures? Explain.

Summary and Conclusions

The summary provides a quick review of key concepts in the chapter.

Questions and Problems

Because solving problems is so critical to a student's learning, new questions and problems have been added and existing questions and problems have been revised. All problems also have been thoroughly reviewed and checked for accuracy.

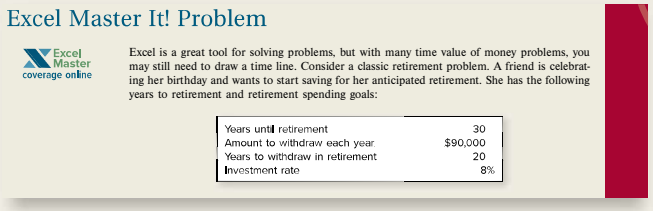
Problems have been grouped according to level of difficulty with the levels listed in the margin: Basic, Intermediate, and Challenge.

Additionally, we have tried to make the problems in the critical "concept" chapters, such as those on value, risk, and capital structure, especially challenging and interesting.

We provide answers to selected problems in Appendix B at the end of the book.

Excel Master It! Problems

Included in the end-of-chapter material are problems directly incorporating Excel, and new tips and techniques taught in the chapter's ExcelMaster supplement.



Excel Master It! Problem

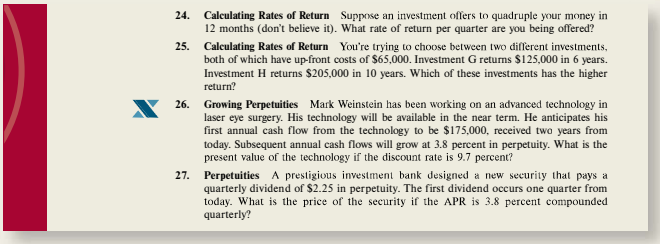
Excel Master coverage online

Excel is a great tool for solving problems, but with many time value of money problems, you may still need to draw a time line. Consider a classic retirement problem. A friend is celebrating her birthday and wants to start saving for her anticipated retirement. She has the following years to retirement and retirement spending goals:

Years until retirement	30
Amount to withdraw each year	$90,000
Years to withdraw in retirement	20
Investment rate	8%

Excel Problems

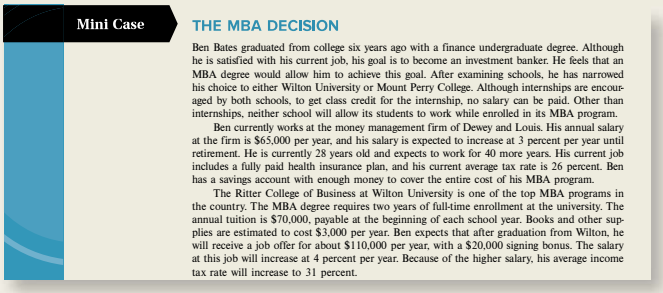
Indicated by the Excel icon in the margin, these problems can be found at the end of almost all chapters. Located in Connect Finance for *Corporate Finance,* 12e, Excel templates have been created for each of these problems, where students can use the data in the problem to work out the solution using Excel skills.



24. **Calculating Rates of Return** Suppose an investment offers to quadruple your money in 12 months (don't believe it). What rate of return per quarter are you being offered?
25. **Calculating Rates of Return** You're trying to choose between two different investments, both of which have up-front costs of $65,000. Investment G returns $125,000 in 6 years. Investment H returns $205,000 in 10 years. Which of these investments has the higher return?
26. **Growing Perpetuities** Mark Weinstein has been working on an advanced technology in laser eye surgery. His technology will be available in the near term. He anticipates his first annual cash flow from the technology to be $175,000, received two years from today. Subsequent annual cash flows will grow at 3.8 percent in perpetuity. What is the present value of the technology if the discount rate is 9.7 percent?
27. **Perpetuities** A prestigious investment bank designed a new security that pays a quarterly dividend of $2.25 in perpetuity. The first dividend occurs one quarter from today. What is the price of the security if the APR is 3.8 percent compounded quarterly?

End-of-Chapter Cases

Located at the end of almost every chapter, these mini cases focus on common company situations that embody important 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 in that chapter.



Mini Case

THE MBA DECISION

Ben Bates graduated from college six years ago with a finance undergraduate degree. Although he is satisfied with his current job, his goal is to become an investment banker. He feels that an MBA degree would allow him to achieve this goal. After examining schools, he has narrowed his choice to either Wilton University or Mount Perry College. Although internships are encouraged by both schools, to get class credit for the internship, no salary can be paid. Other than internships, neither school will allow its students to work while enrolled in its MBA program.

Ben currently works at the money management firm of Dewey and Louis. His annual salary at the firm is $65,000 per year, and his salary is expected to increase at 3 percent per year until retirement. He is currently 28 years old and expects to work for 40 more years. His current job includes a fully paid health insurance plan, and his current average tax rate is 26 percent. Ben has a savings account with enough money to cover the entire cost of his MBA program.

The Ritter College of Business at Wilton University is one of the top MBA programs in the country. The MBA degree requires two years of full-time enrollment at the university. The annual tuition is $70,000, payable at the beginning of each school year. Books and other supplies are estimated to cost $3,000 per year. Ben expects that after graduation from Wilton, he will receive a job offer for about $110,000 per year, with a $20,000 signing bonus. The salary at this job will increase at 4 percent per year. Because of the higher salary, his average income tax rate will increase to 31 percent.

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Assurance of Learning is an important element of many accreditation standards. *Corporate Finance*, 12e, is designed specifically to support your assurance of learning initiatives. Every test bank question is labeled with 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.

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Instructor Resources

The Instructor Library in Connect contains all the necessary supplements–Instructor's Manual, Test Bank, Computerized Test Bank, and PowerPoint–all in one place. Go to connect.mheducation.com to find:

- **Instructor's Manual**
  Prepared by Steven D. Dolvin, Butler University
  This is a great place to find new lecture ideas. The IM has three main sections. The first section contains a chapter outline and other lecture materials. The annotated

outline for each chapter includes lecture tips, real-world tips, ethics notes, suggested PowerPoint slides, and, when appropriate, a video synopsis.

- **Test Bank**

  Prepared by Kay Johnson

  Here's a great format for a better testing process. The Test Bank has over 100 questions per chapter that closely link with the text material and provide a variety of question formats (multiple-choice questions/problems and essay questions) and levels of difficulty (basic, intermediate, and challenge) to meet every instructor's testing needs. Problems are detailed enough to make them intuitive for students, and solutions are provided for the instructor.

- **TestGen**

  TestGen is a complete, state-of-the-art test generator and editing application software that allows instructors to quickly and easily select test items from McGraw Hill's TestGen testbank content and to organize, edit, and customize the questions and answers to rapidly generate paper tests. Questions can include stylized text, symbols, graphics, and equations that are inserted directly into questions using built-in mathematical templates. TestGen's random generator provides the option to display different text or calculated number values each time questions are used. With both quick-and-simple test creation and flexible and robust editing tools, TestGen is a test generator system for today's educators.

- **PowerPoint Presentation System**

  Prepared by Steven D. Dolvin, Butler 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 a spreadsheet link to show an example in Excel. You also can go to the Notes Page function for more tips on presenting the slides. If you already have PowerPoint installed on your PC, you can edit, print, or rearrange the complete presentation to meet your specific needs.

- **Excel Simulations**

  Expanded for this edition! With 180 Excel simulation questions now included in Connect, RWJJ is the unparalleled leader in offering students the opportunity to practice using the Excel functions they will use throughout their careers in finance.

- **Corporate Finance Videos**

  New for this edition, brief and engaging conceptual videos (and accompanying questions) help students to master the building blocks of the Corporate Finance course.

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  Each chapter's slides follow the chapter topics and provide steps and explanations showing how to solve key problems. Because each student learns differently, a quick click on each slide will "talk through" its contents with you!

- **Excel Templates**
  Corresponding to most end-of-chapter problems, each template allows the student to work through the problem using Excel. Each end-of-chapter problem with a template is indicated by an Excel icon in the margin beside it.
- **ExcelMaster**
  Developed by the authors for the RWJ franchise, this valuable and comprehensive supplement provides a tutorial for students in using Excel in finance that is broken out by chapter sections.

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