2024 Release

Fundamentals of CORPORATE FINANCE

Stephen A. Ross

Randolph W. Westerfield University of Southern California, Emeritus

Bradford D. Jordan

University of Florida







FUNDAMENTALS OF CORPORATE FINANCE, 2024 RELEASE

Published by McGraw Hill LLC, 1325 Avenue of the Americas, New York, NY 10019. Copyright ©2024 by McGraw Hill LLC. All rights reserved. Printed in the United States of America. Previous editions ©2022, 2019, and 2016. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of McGraw Hill LLC, including, but not limited to, in any network or other electronic storage or transmission, or broadcast for distance learning.

Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 LWI 29 28 27 26 25 24

ISBN 978-1-265-06683-3 (bound) MHID 1-265-06683-3 (bound) ISBN 978-1-264-96833-6 (loose-leaf) MHID 1-264-96833-7 (loose-leaf)

Portfolio Manager: Sarah Hutchings Product Developer: Allison McCabe-Carroll Marketing Manager: Sarah Hurley Content Project Managers: Susan Trentacosti and George Theofanopoulos Manufacturing Project Manager: Laura Fuller Content Licensing Specialist: Prineeth Priyan Cover Image: Seaphotoart/Alamy Stock Photo Compositor: Straive

All credits appearing on page or at the end of the book are considered to be an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

- Names: Ross, Stephen A., author. | Westerfield, Randolph, author. | Jordan, Bradford D., author.
- Title: Fundamentals of corporate finance / Stephen A. Ross, Randolph W. Westerfield, University of Southern California, Emeritus, Bradford D. Jordan, University of Florida.
- Description: 2024 Release. | New York, NY : McGraw Hill LLC, [2024] | Series: The McGraw Hill Education series in finance, insurance, and real estate | Includes index. | Audience: Ages 18+
- Identifiers: LCCN 2023054761 (print) | LCCN 2023054762 (ebook) | ISBN 9781265066833 (hardcover ; alk. paper) | ISBN 9781264968664 (ebook)
- Subjects: LCSH: Corporations-Finance.
- Classification: LCC HG4026 .R677 2024 (print) | LCC HG4026 (ebook) | DDC 658.15—dc23/eng/20231130
- LC record available at https://lccn.loc.gov/2023054761
- LC ebook record available at https://lccn.loc.gov/2023054762

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a website does not indicate an endorsement by the authors or McGraw Hill LLC, and McGraw Hill LLC does not guarantee the accuracy of the information presented at these sites.

0

mheducation.com/highered



To Stephen A. Ross and family

Our great friend, colleague, and coauthor Steve Ross passed away on March 3, 2017. Steve's influence on our textbook, like his influence on the field of finance, is seminal, deep, and enduring, and we miss him greatly.

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



About the Authors

STEPHEN A. ROSS



Stephen A. Ross.

The late 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 known for his work in developing the Arbitrage Pricing Theory as well as his substantial contributions to the discipline through his research on 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 various academic and practitioner journals. He was a trustee of CalTech.

RANDOLPH W. WESTERFIELD

Marshall School of Business, University of Southern California



Randolph W. Westerfield is Dean Emeritus and the Charles B. Thornton Professor in Finance Emeritus at the University of Southern California's Marshall School of Business. Professor Westerfield came to USC from the Wharton School, University of Pennsylvania, where he was the chairman of the finance department and a member of the finance faculty for 20 years. He is a member of the board of trustees of Oaktree Capital mutual funds. His areas of expertise include corporate financial policy, investment management, and stock market price behavior.

Randolph W. Westerfield

BRADFORD D. JORDAN

Warrington College of Business, University of Florida



Bradford D. Jordan

Bradford D. Jordan is Visiting Scholar in the Warrington College of Business at the University of Florida. He previously held the duPont Endowed Chair in Banking and Financial Services at the University of Kentucky, where he was department chair for many years. Professor Jordan has published numerous articles in top journals 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 he is coauthor of *Fundamentals of Investments: Valuation and Management*, 10e, a leading investments text, also published by McGraw Hill.

Preface from the Authors

• •

When the three of us decided to write a book, we were united by one strongly held principle: Corporate finance should be developed in terms of a few integrated, powerful ideas. We believed that the subject was all too often presented as a collection of loosely related topics, unified primarily by virtue of being bound together in one book, and we thought there must be a better way.

One thing we knew for certain was that we didn't want to write a "me-too" book. So, with a lot of help, we took a hard look at what was truly important and useful. In doing so, we were led to eliminate topics of dubious relevance, 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 became our central focus in writing *Fundamentals 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.

In retrospect, looking back to our 1991 first edition IPO, we had the same hopes and fears as any entrepreneurs. How would we be received in the market? At the time, we had no idea that more than 30 years later, we would be working on the 2024 release. We certainly never dreamed that in those years we would work with friends and colleagues from around the world to create country-specific Australian, Canadian, European, Indian, and South African editions; an International edition; Chinese, French, Polish, Portuguese, Thai, Russian, Korean, and Spanish (among others) language editions; and an entirely separate book, *Essentials of Corporate Finance*, now in its eleventh edition.

Today, as we prepare to once more enter the market, our goal is to stick with the basic principles that have brought us this far. However, based on the enormous amount of feedback we have received from you and your colleagues, we have made this release and its package even more flexible than previous editions. We offer flexibility in coverage, as customized releases of this text can be crafted in any combination through McGraw Hill's *CREATE* system, and flexibility in 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 only the textbook, or the book in conjunction with our other products, we believe you will find a combination with this release that will meet your current as well as your changing course needs.

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



Coverage

This book was designed and developed explicitly for a first course in business or corporate finance, for both finance majors and non-majors alike. In terms of background or prerequisites, the book is nearly self-contained, assuming some familiarity with basic algebra and accounting concepts, while still reviewing important accounting principles very early on. The organization of this text has been developed to give instructors the flexibility they need.

The following grid presents, for each chapter, some of the most significant features as well as a few selected chapter highlights of the 2024 Release of *Fundamentals of Corporate Finance*. Of course, in every chapter, opening vignettes, boxed features, in-chapter illustrated examples using real companies, and end-of-chapter material have been thoroughly updated as well.

Chapters	Selected Topics of Interest	Benefits to You
PART 1 Overview of Corpora	ite Finance	
CHAPTER 1 Introduction to	Chapter opener on the control of Twitter.	Describes the growth of Twitter from a start-up to its buyout by Elon Musk.
Corporate Finance	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.
	Sarbanes-Oxley.	Up-to-date discussion of Sarbanes-Oxley and its implications and impact.
	Finance and other disciplines, including fintech.	Discusses how finance interacts with other business disciplines. Also includes a discussion of fintech.
	Minicase: The McGee Cake Company.	Examines the choice of organization form for a small business.
CHAPTER 2 Financial Statements, Taxes,	Cash flow vs. earnings.	Clearly defines cash flow and spells out the differences between cash flow and earnings.
and Cash Flow	Market values vs. book values.	Emphasizes the relevance of market values over book values.
	Brief discussion of average corporate tax rates.	Highlights the variation in corporate tax rates across industries in practice.
	Updated: Personal tax rates.	Discusses how personal tax rates affect sole proprietorships, partnerships, and LLCs.
	<i>Minicase</i> : Cash Flows and Financial Statements at Sunset Boards, Inc.	Reinforces key cash flow concepts in a small business setting.

Chapters	Selected Topics of Interest	Benefits to You
PART 2 Financial Statements	and Long-Term Financial Planning	
CHAPTER 3 Working with Financial	CAPE.	Discussion of cyclically adjusted price-earnings (CAPE) ratio.
Statements	Expanded DuPont analysis.	Expands the basic DuPont equation to better explore the interrelationships between operating and financial performance.
	DuPont analysis for real companies using data from S&P Market Insight.	Analysis shows students how to get and use real- world data, thereby applying key chapter ideas.
	Ratio and financial statement analysis using smaller firm data.	Uses firm data from <i>RMA</i> to show students how to actually get and evaluate financial statement benchmarks.
	Understanding financial statements.	Thorough coverage of standardized financial statements and key ratios.
	The enterprise value-EBITDA ratio.	Defines enterprise value (EV) and discusses the widely used EV-EBITDA ratio.
	Ratios for various industries.	Discussion of ratios for various industries in practice.
	Minicase: Ratio Analysis at S&S Air, Inc.	Illustrates the use of ratios and some pitfalls in a small business context.
CHAPTER 4 Long-Term Financial Planning and Growth	Expanded discussion of sustainable growth calculations.	Illustrates the importance of financial planning in a small firm.
	Explanation of alternative formulas for sustainable and internal growth rates.	Explanation of growth rate formulas clears up a common misunderstanding about these formulas and the circumstances under which alternative formulas are correct.
	Thorough coverage of sustainable growth as a planning tool.	Provides a vehicle for examining the interrelationships between operations, financing, and growth.
	Long-range financial planning.	Covers the percentage of sales approach to creating pro forma statements.
	<i>Minicase</i> : Planning for Growth at S&S Air.	Discusses the importance of a financial plan and capacity utilization for a small business.

PART 3 Valuation of Future Cash Flows

CHAPTER 5 Introduction to Valuation: The Time Value of Money

CHAPTER 6 Discounted Cash Flow Valuation First of two chapters on time value of money.

Second of two chapters on time value of money. Includes annuities, perpetuities, growing annuities, and growing perpetuities.

Minicase: The MBA Decision.

Relatively short chapter introduces just the basic ideas on time value of money to get students started on this traditionally difficult topic.

• • *

Covers more advanced time value topics with numerous examples, calculator tips, and Excel spreadsheet exhibits. Contains many real-world examples.

Explores the financial pros and cons of pursuing an MBA degree.



· · · · ·	•	
Chapters	Selected Topics of Interest	Benefits to You
CHAPTER 7 Interest Rates and	Chapter opener on the recent fed funds interest rate increases.	Motivates a discussion on interest rates and cash flows.
Bond Valuation	Negative interest rates.	Chapter explores the recent phenomenon of negative interest on government bonds.
	Bond valuation.	Complete coverage of bond valuation and bond features.
	Interest rates.	Discusses real versus nominal rates and the determinants of the term structure.
	"Clean" vs. "dirty" bond prices and accrued interest.	Clears up the pricing of bonds between coupon payment dates and also bond market quoting conventions.
	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 a relatively new type of call provision that has become very common.
	Islamic finance.	Provides basics of some important concepts in Islamic finance.
	Corporate default rates.	Provides a discussion of default rates by credit rating.
	<i>Minicase</i> : Financing S&S Air's Expansion Plans with a Bond Issue.	Discusses the issues that come up in selling bonds to the public.
CHAPTER 8 Stock Valuation	Stock valuation.	Thorough coverage of constant and non-constant growth models.
	NYSE market operations.	Up-to-date description of major stock market operations.
	Valuation using multiples.	Illustrates using PE and price/sales ratios for equity valuation.
	Valuation ratios for industries.	Provides a discussion of how valuation ratios vary between industries.
	<i>Minicase</i> : Stock Valuation at Ragan, Inc.	Illustrates the difficulties and issues surrounding small business valuation.
PART 4 Capital Budgeting		
CHAPTER 9 Net Present Value and Other Investment Criteria	First of three chapters on capital budgeting.	Relatively short chapter introduces key ideas on an intuitive level to help students with this traditionally difficult topic.
	NPV, IRR, payback, discounted payback, MIRR, and accounting rate of return.	Consistent, balanced examination of advantages and disadvantages of various criteria.
	New: Capital budgeting in practice statistics from the 2022 Duke University CFO Survey.	The survey numbers show importance of capital budgeting metrics in practice.
	Minicase: Bullock Gold Mining.	Explores different capital budgeting techniques with nonstandard cash flows.
CHAPTER 10 Making Capital	Project cash flow.	Thorough coverage of project cash flows and the relevant numbers for a project analysis.
Investment Decisions	Alternative cash flow definitions.	Emphasizes the equivalence of various formulas, thereby removing common misunderstandings.
	Special cases of DCF analysis.	Considers important applications of chapter tools.
	<i>Minicase</i> : Conch Republic Electronics, Part 1.	Analyzes capital budgeting issues and complexities.

•

• 🎖

xii

xii cov	'ERAGE	
Chapters	Selected Topics of Interest	Benefits to You
CHAPTER 11 Project Analysis and Evaluation	Sources of value.	Stresses the need to understand the economic basis for value creation in a project.
	Scenario and sensitivity "what-if" analyses.	Illustrates how to actually apply and interpret these tools in a project analysis.
	Break-even analysis.	Covers cash, accounting, and financial break-even levels.
	<i>Minicase</i> : Conch Republic Electronics, Part 2.	Illustrates the use of sensitivity analysis in capital budgeting.
PART 5 Risk and Return		
CHAPTER 12 Some Lessons from Capital Market History	Expanded discussion of geometric vs. arithmetic returns.	Discusses calculation and interpretation of geometric returns. Clarifies common misconceptions regarding appropriate use of arithmetic vs. geometric average returns.
	Capital market history.	Extensive coverage of historical returns, volatilities, and risk premiums.
	Market efficiency.	Efficient markets hypothesis discussed along with common misconceptions.
	The equity risk premium.	Discusses the equity premium puzzle and latest international evidence.
	The 2008 and 2020 experiences.	Section on the stock market turmoil of 2008 and 2020.
	Minicase: A Job at S&S Air.	Discusses selection of investments for a 401(k) plan.
CHAPTER 13 Return, Risk, and the Security Market Line	Diversification and 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.
	New: Covariance and correlation.	Online Appendix provides a more in-depth discussion of covariance and correlation.
	<i>Minicase</i> : The Beta for Colgate-Palmolive.	Detailed discussion of beta estimation.
PART 6 Cost of Capital and	ong-Term Financial Policy	
CHAPTER 14 Cost of Capital	Cost of capital estimation.	Contains 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.
	Firm valuation.	Develops the free cash flow approach to firm valuation.
	<i>Minicase</i> : Cost of Capital for Swan Motors.	Covers pure play approach to cost of capital estimation.

0 0

0 0

• •

•°

Chapters	Selected Topics of Interest	Benefits to You
CHAPTER 15 Raising Capital	Entrepreneurship and venture capital.	Discussion of entrepreneurship and the venture capital market.
	Dutch auction IPOs.	Explains uniform price auctions.
	Regulation CF.	Explains the new Regulation CF for crowdfunding and provides some examples.
	IPO "quiet periods."	Explains the SEC's quiet period rules.
	Rights vs. warrants.	Clarifies the optionlike nature of rights prior to their expiration dates.
	IPO valuation.	Extensive, up-to-date discussion of IPOs, including the 1999–2000 period.
	Minicase: S&S Air Goes Public.	Covers the key parts of the IPO process for a small firm.
CHAPTER 16	Basics of financial leverage.	Illustrates effect of leverage on risk and return.
Financial Leverage and Capital Structure Policy	Optimal capital structure.	Describes the basic trade-offs leading to an optimal capital structure.
	Financial distress and bankruptcy.	Briefly surveys the bankruptcy process.
	<i>Minicase</i> : Stephenson Real Estate Recapitalization.	Discusses optimal capital structure for a medium- sized firm.
CHAPTER 17 Dividends and Payout Policy	Survey evidence on dividend policy.	Survey results show the most important (and least important) factors considered by financial managers in setting dividend policy.
	Effect of new tax laws.	Discusses implications of new, lower dividend and capital gains rates.
	Dividends and dividend policy.	Describes dividend payments and the factors favoring higher and lower payout policies.
	Optimal payout policy.	Extensive discussion of the latest research and survey evidence on dividend policy, including life-cycle theory.
	Stock repurchases.	Thorough coverage of buybacks as an alternative to cash dividends.
	<i>Minicase</i> : Electronic Timing, Inc.	Describes the dividend/share repurchase issue for a small company.
DADT 7 Short-Torm-Einanci	al Planning and Management	
		Strasses the importance of each flow timing

°°,∘

° °

`o

ໍຈໍ

 CHAPTER 18
 Operating and cash cycles.
 Stresses the importance of cash flow timing.

 Short-Term Finance and Planning
 Short-term financial planning.
 Illustrates creation of cash budgets and potential need for financing.

 Purchase order financing.
 Purchase order financing.
 Brief discussion of PO financing, which is popular with small and medium-sized firms.

 Minicase: Piepkorn Manufacturing Working Capital Management.
 Illustrates the construction of a cash budget and short-term financial plan for a small company.



Chapters	Selected Topics of Interest	Benefits to You
CHAPTER 19 Cash and Liquidity	Float management.	Thorough coverage of float management and potential ethical issues.
Management	Cash collection and disbursement.	Examination of systems used by firms to handle cash inflows and outflows.
	<i>Minicase</i> : Cash Management at Webb Corporation.	Evaluates alternative cash concentration systems for a small firm.
CHAPTER 20	Credit management.	Analysis of credit policy and implementation.
Credit and Inventory	Inventory management.	Brief overview of important inventory concepts.
Management	<i>Minicase</i> : Credit Policy at Howlett Industries.	Evaluates working capital issues for a small firm.
PART 8 Topics in Corporate	Finance	
CHAPTER 21 International Corporate	Chapter opener on blockage of foreign accounts.	Shows a real-world example of a risk in foreign investments for companies.
Finance	Foreign exchange.	Covers essentials of exchange rates and their determination.
	International capital budgeting.	Shows how to adapt basic DCF approach to handle exchange rates.
	Exchange rate and political risk.	Discusses hedging and issues surrounding sovereign risk.
	Brexit.	Uses "Brexit" as an illustration of political risk.
	Repatriation.	Chapter opener and in-chapter discussion of the immense overseas cash holdings by U.S. corporations.
	Minicase: S&S Air Goes International.	Discusses factors in an international expansion for a small firm.
CHAPTER 22 Behavioral Finance: Implications for Financial Management	Behavioral finance.	Unique and innovative coverage of the effects of biases and heuristics on financial management decisions. "In Their Own Words" box by Hersh Shefrin.
	Case against efficient markets.	Presents the behavioral case for market inefficiency and related evidence pro and con.
	<i>Minicase</i> : Your 401(k) Account at S&S Air.	Illustrates the considerations to be taken when selecting investment options.
CHAPTER 23 Enterprise Risk Management	Volatility and risk.	Illustrates need to manage risk and some of the most important types of risk.
	Hedging with forwards, options, and swaps.	Shows how many risks can be managed with financial derivatives.
	Minicase: Chatman Mortgage, Inc.	Analyzes hedging of interest rate risk.

°°

0



Chapters	Selected Topics of Interest	Benefits to You
CHAPTER 24 Options and Corporate Finance	Stock options, employee stock options, and real options.	Discusses the basics of these important option types.
	Option-embedded securities.	Describes the different types of options found in corporate securities.
	Minicase: S&S Air's Convertible Bond.	Examines security issuance issues for a small firm.
CHAPTER 25 Option Valuation	Put-call parity and Black-Scholes.	Develops modern option valuation and factors influencing option values.
	Options and corporate finance.	Applies option valuation to a variety of corporate issues, including mergers and capital budgeting.
	<i>Minicase</i> : Exotic Cuisines Employee Stock Options.	Illustrates complexities that arise in valuing employee stock options.
CHAPTER 26 Mergers and Acquisitions	Alternatives to mergers and acquisitions.	Covers strategic alliances and joint ventures and why they are important alternatives.
	Defensive tactics.	Expanded discussion of antitakeover provisions.
	Divestitures and restructurings.	Examines important actions such as equity carve- outs, spin-offs, and split-ups.
	Mergers and acquisitions.	Develops essentials of M&A analysis, including financial, tax, and accounting issues.
	<i>Minicas</i> e: The Birdie Golf–Hybrid Golf Merger.	Covers small business valuation for acquisition purposes.
CHAPTER 27 Leasing	Changes in lease accounting.	Discusses recent changes in lease accounting rules and the curtailment of "off-balance-sheet" financing.
	Leases and lease valuation.	Examines essentials of leasing, good and bad reasons for leasing, and NPV of leasing.
	<i>Minicase</i> : The Decision to Lease or Buy at Warf Computers.	Covers lease-or-buy and related issues for a small business.



In-Text Study Features

To meet the varied needs of its intended audience, *Fundamentals of Corporate Finance* is rich in valuable learning tools and support.

CHAPTER-OPENING VIGNETTES

Vignettes drawn from real-world events introduce students to the chapter concepts.



CHAPTER LEARNING OBJECTIVES

This feature maps out the topics and learning goals in every chapter. Each end-of-chapter problem and test bank question is linked to a learning objective, to help you organize your assessment of knowledge and comprehension.

PEDAGOGICAL USE OF COLOR

This learning tool continues to be an important feature of *Fundamentals of Corporate Finance*. In almost every chapter, color plays an extensive, nonschematic, and largely selfevident role. A guide to the functional use of color is on page xlvi of this frontmatter.



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 to the fact 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.

Robert C. Higgins is a Professor Emeritus of Finance 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

This series of boxes features popular articles on key topics in the text written by distinguished scholars and practitioners. Boxes include essays by Merton Miller on capital structure, Fischer Black on dividends, and Roger Ibbotson on capital market history. A complete list of In Their Own Words boxes appears on page xlv.

WORK THE WEB BOXES

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



WORK THE WEB

As we discussed in this chapter, ratios are an important tool for examining a company's performance. Gathering the necessary financial statements to calculate ratios can be tedious and time-consuming. Fortunately, many sites on the web provide this information for free. One of these is www.reuters.com. We went there, entered the ticker symbol "HD" (for Home Depot), and then went to the "Key Metrics" page. Here is an abbreviated look at the results:

Title	Value
Free Cash Flow (Annual)	7,020.00
Free Cash Flow (TTM)	2,584.00
Current EV/Free Cash Flow (Annual)	36.39
Current EV/Free Cash Flow (TTM)	38.47
Current Ratio (Annual)	1.01
Current Ratio (Quarterly)	1.39
Quick Ratio (Annual)	0.24
Quick Ratio (Quarterly)	

The website reports numerous ratios for each publicly traded company. We encourage you to have a look at your favorite company.

Questions

- Go to www.reuters.com and find the major ratio categories listed on this website. How do the categories differ from the categories listed in this textbook?
- Go to www.reuters.com and look at the ratios. You will notice the ratios are reported on a quarterly, annual, or trailing 12-month basis. Why might the ratios be calculated using different values?
 - a daling 12-month basis. Why might the ratios be calculated asing amerent values:



REAL-WORLD EXAMPLES

Actual events are integrated throughout the text, tying chapter concepts to real life through illustration and reinforcing the relevance of the material. Some examples tie into the chapter-opening vignette for added reinforcement.

SPREADSHEET STRATEGIES

How to Calculate Present Values with Multiple

Future Cash Flows Using a Spreadsheet

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 calculated the present values one at a time and added them up:

	A	В	С	D	E
1					
2		Using a sp	preadsheet to value n	nultiple future cash flows	
3					
4	What is the p	resent value of	\$200 in one year, \$40	10 the next year, \$600 the next ye	ar, and
5	\$800 the last	year if the disc	ount rate is 12 percen	1?	
6					
7	Rate:	.12			_
8		0.14		F	_
9	Year	Cash flows	Present values	Formula used	_
10	1	\$200	\$178.57	=PV(\$B\$7,A10,0,-B10)	_
11	2	\$400	\$318.88	=PV(\$B\$7,A11,0,-B11)	
12	3	\$600	\$427.07	=PV(\$B\$7,A12,0,-B12)	_
13	4	\$800	\$508.41	=PV(\$B\$7,A13,0,-B13)	_
14		Tetel DM	Ê1 400 00	-8104(640(642)	_
15		Total PV.	\$1,432.93	=50M(C10:C13)	_
16	N C 0				_
17	Notice the ne	gative signs ins	erted in the PV formu	las. These just make the present	values have
18	positive signs	Also, the disc	bunt rate in cell B7 is	entered as \$B\$7 (an "absolute" re	terence)
19	because it is	used over and o	over. We could have ju	ist entered ".12" instead, but our a	pproach is
20	more flexible.				
21					
22					

SPREADSHEET STRATEGIES

0 0

•

0

0

This feature introduces students to Excel and shows them how to set up spreadsheets in order to analyze common financial problems—a vital part of every business student's education.

CALCULATOR HINTS

Brief calculator tutorials appear in selected chapters to help students learn or brush up on their financial calculator skills. These complement the Spreadsheet Strategies.



6.4



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	
3.3a	What are the five groups of ratios? Give two or three examples of each kind.
3.3b	Given the total debt ratio, what other two ratios can be computed? Explain how.
3.3c	Turnover ratios all have one of two figures as the numerator. What are these two figures? What do these ratios measure? How do you interpret the results?
3.3d	Profitability ratios all have the same figure in the numerator. What is it? What do these ratios measure? How do you interpret the results?

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. For an example, see Chapter 3, page 72.

PV for a perpetuity = C/r

For example, an investment offers a perpetual cash flow of \$500 every year. The return you require on such an investment is 8 percent. What is the value of this investment? The value of this perpetuity is:

Perpetuity PV = C/r = \$500/.08 = \$6,250

For future reference, Table 6.2 contains a summary of the annuity and perpetuity basic calculations we have described in this section. By now, you probably think that you'll just use online calculators to handle annuity problems. Before you do, see our nearby Work the Web box!

Preferred Stock	EXAMPLE 6.7
Preferred stock (or preference stock) is an important example of a perpetui ration sells preferred stock, the buyer is promised a fixed cash dividend eve every quarter) forever. This dividend must be paid before any dividend can stockholders—hence the term <i>preferred</i> .	ty. When a corpo- ry period (usually be paid to regular
Suppose the Fellini Co. wants to sell preferred stock at \$100 per share. preferred stock already outstanding has a price of \$40 per share and offers	A similar issue of s a dividend of \$1
every quarter. What dividend will Fellini have to offer if the preferred stock	is going to sell?

LABELED 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-bystep format. Each example is completely self-contained, so 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.





KEY TERMS

Key terms are printed in **bold** type and defined within the text the first time they appear. They also appear in the margins with definitions for easy location and identification by the student.

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.

The SEC has a good overview of the bankruptcy process in its "Online Publications" section at www.sec.gov.	1. A petition is filed in a federal court. Corporations may file a voluntary petition, or involuntary petitions may be filed against the corporation by several of its creditors.
	2. A trustee-in-bankruptcy is elected by the creditors to take over the assets of the debtor corporation. The trustee will attempt to liquidate the assets.
	 When the assets are liquidated, after payment of the bankruptcy administration costs, the proceeds are distributed among the creditors.
	 If any proceeds remain, after expenses and payments to creditors, they are distributed to the shareholders.
	The distribution of the proceeds of the liquidation occurs according to the following priority list:

KEY EQUATIONS

Called out in the text, key equations are identified by an equation number. The list in Appendix B shows the key equations by chapter, providing students with a convenient reference.

Based on our examples, we can now write the general expression for the value of a bond. If a bond has (1) a face value of F paid at maturity, (2) a coupon of C paid per period, (3) t periods to maturity, and (4) a yield of r per period, its value is:



Bond value = $C \times [1 - 1/(1 + r)^{t}]/r + F/(1 + r)^{t}$ Bond value = $\frac{Present value}{of the coupons} + \frac{Present value}{of the face amount}$

HIGHLIGHTED CONCEPTS

Throughout the text, important ideas are pulled out and presented in a highlighted box—signaling to students that this material is particularly relevant and critical for their understanding. For examples, see Chapter 10, page 320; Chapter 13, page 442.

EXCEL MASTER

Icons in the margin identify concepts and skills covered in our unique, RWJcreated Excel Master program. For more training in Excel functions for finance, and for more practice, log on to McGraw Hill *Connect Finance* for *Fundamentals of Corporate Finance* to access the Excel Master files. This pedagogically superior tool will help get your students the practice they need to succeed—and to exceed expectations.

Average Returns: The First Lesson

As you've probably begun to notice, the history of capital market returns is too complicated to be of much use in its undigested form. We need to begin summarizing all these numbers. Accordingly, we discuss how to go about condensing the detailed data. We start out by calculating average returns.



12.3

CALCULATING AVERAGE RETURNS

The obvious way to calculate the average returns on the different investments in Table 12.1 is to add up the yearly returns and divide by 97. The result is the historical average of the individual values.

For example, if you add up the returns for the large-company stocks in Figure 12.5 for the 97 years, you will get about 11.66. The average annual return is 11.66/97 = .120, or 12.0%. You interpret this 12.0 percent just like any other average. If you were to pick a year at random from the 97-year history and you had to guess what the return in that year was, the best guess would be 12.0 percent.

AVERAGE RETURNS: THE HISTORICAL RECORD

Table 12.2 shows the average returns for the investments we have discussed. As shown, in a typical year, the small-company stocks increased in value by 16.0 percent. Notice also how much larger the returns are for stocks, compared to the returns on bonds.

These averages are, of course, nominal because we haven't worried about inflation. Notice that the average inflation rate was 3.0 percent per year over this 97-year span. The nominal return on U.S. Treasury bills was 3.3 percent per year. The average real return





CHAPTER SUMMARY AND CONCLUSIONS

Every chapter ends with a concise, but thorough, summary of the important ideas helping students review the key points and providing closure to the chapter.

CHAPTER REVIEW AND SELF-TEST PROBLEM

2.1 Cash Flow for Mara Corporation This problem will give you some practice working with financial statements and figuring cash flow. Based on the following information for Mara Corporation, prepare an income statement for 2024 and balance sheets for 2023 and 2024. Next, following our U.S. Corporation examples in the chapter, calculate cash flow from assets, cash flow to creditors, and cash flow to stockholders for Mara for 2024. Use a 21 percent tax rate throughout. You can check your answers against ours, found in the following section.

	2023	2024
Sales	\$4,203	\$4,507
Cost of goods sold	2,422	2,633
Depreciation	785	952
Interest	180	196
Dividends	275	352
Current assets	2,205	2,429
Net fixed assets	7,344	7,650
Current liabilities	1,003	1,255
Long-term debt	3,106	2,085

CHAPTER REVIEW AND SELF-TEST PROBLEMS

Appearing after the Summary and Conclusions, each chapter includes a Chapter Review and Self-Test Problem section. These questions and answers allow students to test their abilities in solving key problems related to the chapter content and provide instant reinforcement.

CONCEPTS REVIEW AND CRITICAL THINKING QUES-TIONS

This successful end-ofchapter section facilitates your students' knowledge of key principles, as well as their intuitive understanding of the chapter concepts. A number of the questions relate to the chapteropening vignette reinforcing student critical thinking skills and the learning of chapter material.

CONCEPTS REVIEW AND CRITICAL THINKING QUESTIONS

- 1. Liquidity [LO1] What does liquidity measure? Explain the trade-off a firm faces between high liquidity and low liquidity levels.
- 2. Accounting and Cash Flows [LO2] Why might the revenue and cost figures shown on a standard income statement not be representative of the actual cash inflows and outflows that occurred during a period?
- **3.** Book Values versus Market Values [LO1] In preparing a balance sheet, why do you think standard accounting practice focuses on historical cost rather than market value?
- 4. Operating Cash Flow [LO2] In comparing accounting net income and operating cash flow, name two items you typically find in net income that are not in operating cash flow. Explain what each is and why it is excluded in operating cash flow.
- 5. Book Values versus Market Values [LO1] Under standard accounting rules, it is possible for a company's liabilities to exceed its assets. When this occurs, the owners' equity is negative. Can this happen with market values? Why or why not?
- 6. Cash Flow from Assets [LO4] Suppose a company's cash flow from assets is negative for a particular period. Is this necessarily a good sign or a bad sign?
- Operating Cash Flow [LO4] Suppose a company's operating cash flow has been negative for several years running. Is this necessarily a good sign or a bad sign?
- 8. Net Working Capital and Capital Spending [LO4] Could a company's change in NWC be negative in a given year? (*Hint:* Yes.) Explain how this might come about. What about net capital spending?
- **9.** Cash Flow to Stockholders and Creditors [LO4] Could a company's cash flow to stockholders be negative in a given year? (*Hint:* Yes.) Explain how this might come about. What about cash flow to creditors?
- 10. Firm Values [LO1] Referring back to the Warner Bros. Discovery example used at the beginning of the chapter, note that we suggested that Warner Bros. Discovery's stockholders probably didn't suffer as a result of the reported loss. What do you think was the basis for our conclusion?

END-OF-CHAPTER QUESTIONS AND PROBLEMS

what is the operating cash flow, or OCF?

Students learn better when they have plenty of opportunity to practice; therefore, Fundamentals of Corporate Finance 2024 Release, provides extensive end-of-chapter questions and problems. The end-of-chapter support greatly exceeds typical introductory textbooks. The questions and problems are separated into three learning levels: Basic, Intermediate, and Challenge. Answers to selected endof-chapter material appear in Appendix C. Also, most problems are available in McGraw Hill Connect-see page xxiv for details.

•°

•° • •

QUESTIONS AND PROBLEMS 1. Building a Balance Sheet [LO1] Burrow, Inc., has current assets of \$5,200, net Sect 2 fixed assets of \$27,300, current liabilities of \$4,100, and long-term debt of \$10,900. BASIC What is the value of the shareholders' equity account for this firm? How much is net working capital? (Questions 1-11) 2. Building an Income Statement [LO1] Nakatomi, Inc., has sales of \$757,000, costs -77 of \$316,000, depreciation expense of \$41,000, interest expense of \$36,000, and a tax rate of 21 percent. What is the net income for this firm? 3. Dividends and Retained Earnings [LO1] Suppose the firm in Problem 2 paid out \$125,000 in cash dividends. What is the addition to retained earnings? 4. Per-Share Earnings and Dividends [LO1] Suppose the firm in Problem 3 had 75,000 shares of common stock outstanding. What is the earnings per share, or EPS, figure? What is the dividends per share figure? 5. Calculating Taxes [LO3] Sean Yoo is single and had \$189,000 in taxable income. Using the rates from Table 2.3 in the chapter, calculate his income taxes. What is the average tax rate? What is the marginal tax rate? 6. Calculating OCF [LO4] Giraffe, Inc., has sales of \$63,300, costs of \$24,200, depreciation expense of \$2,400, and interest expense of \$1,800. If the tax rate is 22 percent,

END-OF-CHAPTER CASES

Located at the end of the book's chapters, these minicases focus on real-life 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 from each chapter.



WEB EXERCISES (ONLINE ONLY)

For instructors interested in integrating even more online resources and problems into their course, these web activities show students how to learn from the vast amount of financial resources available on the internet. In the 2024 Release of Fundamentals of Corporate Finance, these web exercises are available to students and instructors through Connect.

• [•] 0 0

´° 。

° 。 •

Comprehensive Teaching and Learning Package

This 2024 Release of *Fundamentals of Corporate Finance* has several options 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!

TEXTBOOK

Customize your version of *Fundamentals of Corporate Finance* 2024 Release through McGraw Hill's *Create* platform. Teach the chapters you want in the order you want—your rep can show you how!

INSTRUCTOR RESOURCES

Keep all the supplements in one place! Your *Connect* Library contains all the necessary supplements— Teaching Resource Manual, Solutions, Test Bank, Computerized Test Bank, and PowerPoint—all in one easy-to-find, easy-to-use, integrated place: Your *Connect Finance* course.

Teaching Resource Manual (TRM)

The TRM is a full-service implementation guide designed to support you in the delivery of your curriculum and assist you in integrating Connect.

Solutions Manual (SM)

Prepared by Brad Jordan, University of Florida, and Joe Smolira, Belmont University The Fundamentals Solutions Manual provides detailed solutions to the extensive end-of-chapter material, including concept review questions, quantitative problems, and cases.

Test Bank

Prepared by Heidi Toprac

Over 100 questions and problems per chapter! Each chapter includes questions that test the understanding of key terms in the book; questions patterned after learning objectives, concept questions, chapter-opening vignettes, boxes, and highlighted phrases; multiple-choice problems patterned after end-of-chapter questions at a variety of skill levels; and essay questions to test problem-solving skills and more advanced understanding of concepts.

Corporate Finance Videos

These brief and engaging conceptual videos (and accompanying questions) help students to master the building blocks of the Corporate Finance course.

PowerPoint Presentations

The PowerPoint slides for the 2024 release have been revised to include a wealth of instructor material, including lecture tips, real-world examples, and international notes. Each presentation also includes slides dedicated entirely to ethics notes that relate to the chapter topics.

• Test Builder in Connect

Available within McGraw Hill Connect[®], Test Builder is a cloud-based tool that enables instructors to format tests that can be printed, administered within a Learning Management System (LMS), or exported as a Word document. Test Builder offers a modern, streamlined interface for easy content configuration that matches course needs, without requiring a download.

Test Builder allows you to:

- Access all test bank content from a particular title.
- Easily pinpoint the most relevant content through robust filtering options.
- Manipulate the order of questions or scramble questions and/or answers.
- Pin questions to a specific location within a test.
- Determine your preferred treatment of algorithmic questions.
- Choose the layout and spacing.
- Add instructions and configure default settings.

Test Builder provides a secure interface for better protection of content and allows for just-in-time updates to flow directly into assessments.



ReadAnywhere® App

Read or study when it's convenient with McGraw Hill's free ReadAnywhere® app. Available for iOS and Android smartphones or tablets, it gives users access to McGraw Hill tools including the eBook and SmartBook® or Adaptive Learning Assignments in McGraw Hill Connect®. Students can take notes, highlight, and complete assignments offline—all their work will sync when connected to Wi-Fi. Students log in with their Connect username and password to start learning—anytime, anywhere!

OLC-Aligned Courses

Implementing High-Quality Instruction and Assessment through Preconfigured Courseware

In consultation with the Online Learning Consortium (OLC) and our certified Faculty Consultants, McGraw Hill has created preconfigured courseware using OLC's quality scorecard to align with best practices in online course delivery. This turnkey courseware contains a combination of formative assessments, summative assessments, homework, and application activities, and can easily be customized to meet an individual instructor's needs and desired course outcomes. For more information, visit https://www.mheducation.com/highered/olc.

Remote Proctoring and Browser-Locking Capabilities



New remote proctoring and browser-locking capabilities, hosted by Proctorio within Connect, provide control of the assessment environment by enabling security options and verifying the identity of the student.

Seamlessly integrated within Connect, these services allow instructors to control students' assessment experience by restricting browser activity, recording students' activity, and verifying students are doing their own work.

Instant and detailed reporting gives instructors an at-a-glance view of potential academic integrity concerns, thereby avoiding personal bias and supporting evidence-based claims.

Writing Assignment

Available within McGraw Hill Connect[®], the Writing Assignment tool delivers a learning experience to help students improve written communication skills and conceptual understanding. Assign, monitor, grade, and provide feedback on writing more efficiently and effectively.

Application-Based Activities in McGraw Hill Connect[®]

Prepare students for the real world with Application-Based Activities in Connect. These highly interactive, assignable exercises boost engagement and provide a safe space to apply concepts learned to real-world, course-specific problems. Each Application-Based Activity involves the application of multiple concepts, providing the ability to synthesize information and use critical thinking skills to solve realistic scenarios.

Polling

Every learner has unique needs. Uncover where and when you're needed with the new Polling tool in McGraw Hill Connect[®]! Polling allows you to discover where students are in real time. Engage students and help them create connections with your course



content while gaining valuable insight during lectures. Leverage polling data to deliver personalized instruction when and where it is needed most.

McGraw Hill GO

McGraw Hill GO is an easy-to-use, quick-to-set-up eBook+ that lives within the LMS. GO equips instructors and students with essential course materials: trusted, assignable content and auto-graded chapter questions that sync directly into the LMS. GO makes it easier to keep up with progress and direct attention where it matters.

Evergreen

Content and technology are ever-changing, and it is important that you can keep your course up to date with the latest information and assessments. That's why we want to deliver the most current and relevant content for your course, hassle-free.

Ross: *Fundamentals of Corporate Finance* is moving to an Evergreen delivery model, which means it has content, tools, and technology that is updated and relevant, with updates delivered directly to your existing McGraw Hill Connect[®] course. Engage students and freshen up assignments with up-to-date coverage of select topics and assessments, all without having to switch editions or build a new course.

Create

Your Book, Your Way

McGraw Hill's Content Collections Powered by Create[®] is a self-service website that enables instructors to create custom course materials—print and eBooks—by drawing upon McGraw Hill's comprehensive, cross-disciplinary content. Choose what you want from our high-quality textbooks, digital products, articles, cases, and more. Combine it with your own content quickly and easily, and tap into other rights-secured, third-party content such as cases, articles, readings, cartoons, and labs. Content can be arranged in a way that makes the most sense for your course, and you can select your own cover and include the course name and school information as well. Choose the best format for your course: color print, black-and-white print, or eBook. The eBook can be included in your Connect course and is available on the free ReadAnywhere[®] app for smartphone or tablet access as well. When you are finished customizing, you will receive a free digital copy to review in just minutes! Visit McGraw Hill Create[®]—www.mcgrawhillcreate.com today and begin building!

STUDENT RESOURCES

Student resources for this release can be found through the Library tab in your *Connect Finance* course. If you aren't using Connect, visit us at http://connect.mheducation.com to learn more, and ask your professor about using it in your course for access to a great group of supplement resources!

Excel Resources

For those seeking additional practice, students can access Excel template problems and Excel Master, designed by Brad Jordan and Joe Smolira.

Narrated Lecture Videos

The Narrated Lecture videos 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 the different learning methods of students, the slides provide a visual and audio explanation of topics and problems.





A complete course platform

Connect enables you to build deeper connections with your students through cohesive digital content and tools, creating engaging learning experiences. We are committed to providing you with the right resources and tools to support all your students along their personal learning journeys.





Laptop: Getty Images; Woman/dog: George Doyle/Getty Images

Every learner is unique

In Connect, instructors can assign an adaptive reading experience with SmartBook[®] 2.0. Rooted in advanced learning science principles, SmartBook[®] 2.0 delivers each student a personalized experience, focusing students on their learning gaps, ensuring that the time they spend studying is time well spent. **mheducation.com/highered/connect/smartbook**

Study anytime, anywhere

Encourage your students to download the free ReadAnywhere® app so they can access their online eBook, SmartBook® 2.0, or Adaptive Learning Assignments when it's convenient, even when they're offline. And since the app automatically syncs with their Connect account, all of their work is available every time they open it. Find out more at **mheducation.com/readanywhere** "I really liked this app—it made it easy to study when you don't have your textbook in front of you."

Jordan Cunningham, a student at Eastern Washington University

Effective tools for efficient studying

Connect is designed to help students be more productive with simple, flexible, intuitive tools that maximize study time and meet students' individual learning needs. Get learning that works for everyone with Connect.



Education for all

McGraw Hill works directly with Accessibility Services departments and faculty to meet the learning needs of all students. Please contact your Accessibility Services Office, and ask them to email **accessibility@mheducation.com**, or visit **mheducation.com/about/accessibility** for more information.

Affordable solutions, added value

Make technology work for you with LMS integration for single sign-on access, mobile access to the digital textbook, and reports to quickly show you how each of your students is doing. And with our Inclusive Access program, you can provide all these tools at the lowest available market price to your students. Ask your McGraw Hill representative for more information.

Solutions for your challenges

A product isn't a solution. Real solutions are affordable, reliable, and come with training and ongoing support when you need it and how you want it. Visit **supportateverystep.com** for videos and resources both you and your students can use throughout the term.



Updated and relevant content

Our new Evergreen delivery model provides the most current and relevant content for your course, hassle-free. Content, tools, and technology updates are delivered directly to your existing McGraw Hill Connect® course. Engage students and freshen up assignments with up-to-date coverage of select topics and assessments, all without having to switch editions or build a new course.

TEACHING SUPPORT

Along with having access to all of the student resource materials through the *Connect* Library tab, you also have password-protected access to the Instructor's Manual, solutions to end-of-chapter problems and cases, Instructor's PowerPoint, Excel Template Solutions, video clips, and video projects and questions.

HOW THE MARKET WORKS

Students receive free access to this web-based portfolio simulation with a hypothetical brokerage account to buy and sell stocks and mutual funds. Students can use the real data found at this site in conjunction with the chapters on investments. They can also compete against students in their class and around the United States to run the most successful portfolio. This site is powered by Stock-Trak, the leading provider of investment simulation services to the academic community.

MCGRAW HILL CUSTOMER CARE CONTACT INFORMATION

At McGraw Hill, we understand that getting the most from new technology can be challenging. That's why our services don't stop after you purchase our products. You can chat with our Product Specialists 24 hours a day to get product training online. Or you can search our knowledge bank of Frequently Asked Questions on our support website. For Customer Support, call **800-331-5094**, or visit **mpss.mhhe.com**. One of our Technical Support Analysts will be able to assist you in a timely fashion.

Assurance of Learning Ready

Assurance of Learning is an important element of many accreditation standards. *Fundamentals of Corporate Finance* 2024 Release is designed specifically to support your assurance of learning initiatives. Each chapter in the book begins with a list of numbered learning objectives that 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. With Connect, McGraw Hill's online homework solution, and EZ Test, McGraw Hill's easy-to-use test bank software, you can search the test bank using these and other categories, providing an engine for targeted Assurance of Learning analysis and assessment.

AACSB Statement

McGraw Hill is a proud corporate member of AACSB International. Understanding the importance and value of AACSB Accreditation, *Fundamentals of Corporate Finance* 2024 Release 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 *Fundamentals of Corporate Finance* 2024 Release 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 *Fundamentals of Corporate Finance* 2024 Release 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 eight general knowledge and skills areas.





Acknowledgments

To borrow a phrase, writing an introductory finance textbook is easy—all you do is sit down at a word processor and open a vein. We never would have completed this book without the incredible amount of help and support we received from literally hundreds of our colleagues, students, editors, family members, and friends. We would like to thank, without implicating, all of you.

Clearly, our greatest debt is to our many colleagues (and their students) who, like us, wanted to try an alternative to what they were using and made the decision to change. Needless to say, without this support, we would not be publishing a 2024 release

A great many of our colleagues read the drafts of our first and subsequent editions. The fact that this book has so little in common with our earliest drafts, along with the many changes and improvements we have made over the years, is a reflection of the value we placed on the many comments and suggestions that we received. To the following reviewers, then, we are grateful for their many contributions:

Ibrahim Affeneh Jan Ambrose Mike Anderson Sung C. Bae **Robert Benecke Gary Benesh** Scott Besley Sanjai Bhaghat Vigdis Boasson **Elizabeth Booth** Denis Boudreaux Jim Boyd William Brent **Ray Brooks** Charles C. Brown Lawrence Byerly Steve Byers **Steve Caples** Asim Celik **Christina Cella Mary Chaffin** Fan Chen Raiu Chenna **Barbara J. Childs** Charles M. Cox Natalya Delcoure Michael Dorigan David A. Dumpe Michael Dunn Alan Eastman Adrian C. Edwards Uchenna Elike

Steve Engel Angelo V. Esposito James Estes Cheri Etling Thomas H. Evssell **Dave Fehr Michael Ferguson Deborah Ann Ford Jim Forjan** Micah Frankel Jennifer R. Frazier Deborah M. Giarusso Devra Golbe A. Steven Graham Mark Graham Darryl E. J. Gurley Wendy D. Habegger Karen Hallows **David Harraway** John M. Harris Jr. **R. Stevenson Hawkey Delvin D. Hawley Eric Have Robert C. Higgins** Karen Hogan **Matthew Hood** Steve Isberg James Jackson Pankai Jain James M. Johnson **Randy Jorgensen** Daniel Jubinski

Jarl G. Kallberg Ashok Kapoor **Terry Keasler Howard Keen** David N. Ketcher Jim Keys Kee Kim **Deborah King Robert Kleinman** Ladd Kochman Sophie Kong **David Kuipers** Morris A. Lamberson Qin Lan **Dina Layish** Chun Lee Adam Y. C. Lei George Lentz John Lightstone Jason Lin Scott Lowe **Robert Lutz** Qingzhong Ma Pawan Madhogarhia **Timothy Manuel** David G. Martin **Dubos J. Masson** Mario Mastrandrea Leslie Mathis John McDougald **Bob McElreath Bahlous Mejda**

Gordon Melms **Richard R. Mendenhall** Wayne Mikkelson Lalatendu Misra Karlvn Mitchell Sunil Mohanty Scott Moore **Belinda Mucklow Barry Mulholland** Frederick H. Mull Michael J. Murrav **Randy Nelson Oris Odom Keith Osher Bulent Parker** Megan Partch Samuel Penkar Pamela P. Peterson **Robert Phillips Greg Pierce** Steve Pilloff **Robert Puelz** George A. Racette Charu G. Raheja Narendar V. Rao **Russ Ray Ron Reiber**

Thomas Rietz Jav R. Ritter **Ricardo J. Rodriguez** Stu Rosenstein Kenneth Roskellev Ivan Roten Philip Russel **Gary Sanger Travis Sapp** Martha A. Schary **Robert Schwebach Roger Severns Michael Sher** Dilip K. Shome Neil W. Sicherman **Timothy Smaby** Ahmad Sohrabian Michael F. Spivey Vic Stanton Charlene Sullivan Alice Sun George S. Swales Jr. Lee Swartz **Philip Swensen** Philip Swicegood **Brian Tarrant** Rhonda Tenkku

John G. Thatcher **Harry Thiewes** A. Frank Thompson Joseph Trefzger George Turk Michael R. Vetsuypens Joe Walker Jun Wang James Washam Alan Weatherford Gwendolvn Webb Marsha Weber Jill Wetmore **Mark White** Susan White Annie Wong **Colbrin Wright** David J. Wright Steve B. Wyatt Tung-Hsiao Yang Morris Yarmish Michael Young Mei Zhang J. Kenton Zumwalt Tom Zwirlein

° ° °

0

° ° °

Several of our most respected colleagues contributed original essays for this release, which are entitled "In Their Own Words," and appear in selected chapters. To these individuals we extend a special thanks:

Edward I. Altman New York University

Fischer Black

Robert C. Higgins University of Washington

Roger Ibbotson Yale University, Ibbotson Associates

Erik Lie University of Iowa Robert C. Merton Harvard University, Massachusetts Institute of Technology

Merton H. Miller

Jay R. Ritter University of Florida

Richard Roll California Institute of Technology Hersh Shefrin Santa Clara University

Jeremy Siegel University of Pennsylvania

Bennett Stewart Stern Stewart & Co.

Samuel C. Weaver Lehigh University





The following proofers did outstanding work on this 2024 Release of *Fundamentals of Corporate Finance*: Emily Bello and Steve Hailey. To them fell the unenviable task of technical proofreading and, in particular, careful checking of each calculation throughout the text and Instructor's Manual.

Finally, in every phase of this project, we have been privileged to have had the complete and unwavering support of a great organization, McGraw Hill. We especially thank the sales group. The suggestions they provide, their professionalism in assisting potential adopters, and the service they provide to current users have been a major factor in our success.

We are deeply grateful to the select group of professionals who served as our development team on this release: Allison McCabe-Carroll, Senior Product Developer; Susan Trentacosti, Lead Core Project Manager. Others at McGraw-Hill, too numerous to list here, have improved the book in countless ways.

Throughout the development of this release, we have taken great care to discover and eliminate errors. Our goal is to provide the best textbook available on the subject. To ensure that future releases are error-free, we gladly offer \$10 per arithmetic error to the first individual reporting it as a modest token of our appreciation. More than this, we would like to hear from instructors and students alike. Please write and tell us how to make this a better text. Forward your comments to Dr. Brad Jordan, c/o Editorial—Finance, McGraw Hill, 1120 S. Riverside Plaza, Chicago, IL 60606.

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

Brief Contents

PART 1 Overview of Corporate Finance

- CHAPTER 1 INTRODUCTION TO CORPORATE FINANCE 1
- CHAPTER 2 FINANCIAL STATEMENTS, TAXES, AND CASH FLOW 24

PART 2 Financial Statements and Long-Term Financial Planning

- CHAPTER 3 WORKING WITH FINANCIAL STATEMENTS 51
- CHAPTER 4 LONG-TERM FINANCIAL PLANNING AND GROWTH 97

PART 3 Valuation of Future Cash Flows

- CHAPTER 5 INTRODUCTION TO VALUATION: THE TIME VALUE OF MONEY 131
- CHAPTER 6 DISCOUNTED CASH FLOW VALUATION 157
- CHAPTER 7 INTEREST RATES AND BOND VALUATION 202
- CHAPTER 8 STOCK VALUATION 246

PART 4 Capital Budgeting

- CHAPTER 9 NET PRESENT VALUE AND OTHER INVESTMENT CRITERIA 279
- CHAPTER 10 MAKING CAPITAL INVESTMENT DECISIONS 319
- CHAPTER 11 PROJECT ANALYSIS AND EVALUATION 357

PART 5 Risk and Return

CHAPTER 12	SOME LESSONS FROM CAPITAL MARKET HISTORY	389
CHAPTER 13	RETURN, RISK, AND THE SECURITY MARKET LINE	428

PART 6 Cost of Capital and Long-Term Financial Policy

- CHAPTER 14 COST OF CAPITAL 466
- CHAPTER 15 RAISING CAPITAL 503
- CHAPTER 16 FINANCIAL LEVERAGE AND CAPITAL STRUCTURE POLICY 542
- CHAPTER 17 DIVIDENDS AND PAYOUT POLICY 581

PART 7 Short-Term Financial Planning and Management

- CHAPTER 18 SHORT-TERM FINANCE AND PLANNING 613
- CHAPTER 19 CASH AND LIQUIDITY MANAGEMENT 647
- CHAPTER 20 CREDIT AND INVENTORY MANAGEMENT 680

PART 8 Topics in Corporate Finance

CHAPTER 21 INTERNATIONAL CORPORATE FINANCE 718
CHAPTER 22 BEHAVIORAL FINANCE: IMPLICATIONS FOR FINANCIAL MANAGEMENT 747
CHAPTER 23 ENTERPRISE RISK MANAGEMENT 770
CHAPTER 24 OPTIONS AND CORPORATE FINANCE 797
CHAPTER 25 OPTION VALUATION 835
CHAPTER 26 MERGERS AND ACQUISITIONS 869
CHAPTER 27 LEASING 900

Contents

PART 1 Overview of Corporate Finance

CHAPTER 1

INTRODUCTION TO CORPORATE FINANCE 1

- 1.1 Finance: A Quick Look 2 Finance: The Five Main Areas 2 Corporate Finance 2 Investments 2 Financial Institutions 3 International Finance 3 Fintech 3 Why Study Finance? 3 Marketing and Finance 3 Accounting and Finance 3 Management and Finance 4 Technology and Finance 4 You and Finance 5 **Corporate Finance and the Financial Manager** 5 1.2 What Is Corporate Finance? 5 The Financial Manager 6 Financial Management Decisions 7 Capital Budgeting 7 Capital Structure 7 Working Capital Management 7 Conclusion 8 1.3 Forms of Business Organization 8 Sole Proprietorship 8 Partnership 8 Corporation 9 A Corporation by Another Name ... 10 Benefit Corporation 11 1.4 The Goal of Financial Management 11 Possible Goals 12 The Goal of Financial Management 12 A More General Goal 13 Sarbanes-Oxley 13 The Agency Problem and Control of the 1.5 Corporation 14 Agency Relationships 14 Management Goals 14 Do Managers Act in the Stockholders' Interests? 15 Managerial Compensation 15 Control of the Firm 17 Conclusion 17 Stakeholders 17
- 1.6 Financial Markets and the Corporation 18

 Cash Flows to and from the Firm 18
 Primary versus Secondary Markets 19
 Primary Markets 19
 Secondary Markets 19
 Dealer versus Auction Markets 20
 Trading in Corporate Securities 20
 Listing 20

 1.7 Summary and Conclusions 21

CHAPTER 2

FINANCIAL STATEMENTS, TAXES, AND CASH FLOW 24

2.1	The Balance Sheet 25
	Assets: The Left Side 25
	Liabilities and Owners' Equity: The Right Side 25
	Net Working Capital 26
	Liquidity 27
	Debt versus Equity 28
	Market Value versus Book Value 28
2.2	The Income Statement 29
	GAAP and the Income Statement 30
	Noncash Items 31
	Time and Costs 31
2.3	Taxes 33
	Corporate Tax Rates 33
	Average versus Marginal Tax Rates 33
2.4	Cash Flow 35
	Cash Flow from Assets 35
	Operating Cash Flow 35
	Capital Spending 36
	Change in Net Working Capital 37
	Conclusion 37
	A Note about "Free" Cash Flow 37
	Cash Flow to Creditors and Stockholders 38
	Cash Flow to Creditors 38
	Cash Flow to Stockholders 38
	An Example: Cash Flows for Dole Cola 38
	Operating Cash Flow 38
	Net Capital Spending 40
	Change in NWC and Cash Flow from Assets 40
	Cash Flow to Stockholders and Creditors 40
2.5	Summary and Conclusions 41



PART 2 Financial Statements and Long-Term Financial Planning

CHAPTER 3

WORKING WITH FINANCIAL STATEMENTS 51

3.1	Cash Flow and Financial Statements:
	Sources and Uses of Cash 52
	The Statement of Cash Flows 54
22	Standardized Einancial Statements 56
5.2	Common-Size Statements 56
	Common Sizo Balanco Shoots 56
	Common Sizo Incomo Statements 57
	Common Size Statements of Cash Elows 59
	Common Pase Vear Einancial Statements: Trend
	Analysis 58
	Combined Common-Size and Base Year Analysis 58
3.3	Ratio Analysis 59
	Short-Term Solvency, or Liquidity, Measures 60
	Current Ratio 60
	The Quick (or Acid-Test) Ratio 61
	Other Liquidity Ratios 62
	Long-Term Solvency Measures 62
	Total Debt Ratio 63
	A Brief Digression: Total Capitalization versus Total Assets 63
	Times Interest Earned 64
	Cash Coverage 64
	Asset Management, or Turnover, Measures 64
	Inventory Turnover and Days' Sales in Inventory 64
	Receivables Turnover and Days' Sales in Receivables 65
	Asset Turnover Ratios 66
	Profitability Measures 67
	Profit Margin 67
	Return on Assets 67
	Return on Equity 68
	Market Value Measures 69
	Price-Earninas Ratio 69
	CAPE 69
	Price-Sales Ratio 70
	Market-to-Book Ratio 71
	Enterprise Value-EBITDA Multiple 71
	A Note on Ratio Analysis 72
	Conclusion 72
3.4	The DuPont Identity 74
	A Closer Look at ROE 74
	An Expanded DuPont Analysis 76

3.5	Using Financial Statement Information 78	
	Why Evaluate Financial Statements? 78	
	Internal Uses 78	
	External Uses 78	
	Choosing a Benchmark 78	
	Time Trend Analysis 78	
	Peer Group Analysis 79	
	Problems with Financial Statement Analysis 84	
3.6	Summary and Conclusions 85	
СНА	PTER 4	
LOIN	STERMITINANCIAL FLANNING AND GROWTH 97	
4.1	What Is Financial Planning? 99	
	Growth as a Financial Management Goal 99	
	Dimensions of Financial Planning 99	
	What Can Planning Accomplish? 100	
	Examining Interactions 100	
	Exploring Options 100	
	Avoiding Surprises 100	
	Ensuring Feasibility and Internal Consistency 101	
	Conclusion 101	
4.2	Financial Planning Models: A First Look 101	
	A Financial Planning Model: The Ingredients 101	
	Sales Forecast 102	
	Pro Forma Statements 102	
	Asset Requirements 102	
	Financial Requirements 102	
	The Plug 102	
	Economic Assumptions 103	
	A Simple Financial Planning Model 103	
4.3	The Percentage of Sales Approach 104	
	The Income Statement 104	
	The Balance Sheet 105	
	A Particular Scenario 107	
	An Alternative Scenario 108	
4.4	External Financing and Growth 110	
	EFN and Growth 112	
	Financial Policy and Growth 114	
	The Internal Growth Rate 114	
	i ne Sustainable Growth Rate 115	
	Determinants of Growth 115	
	A Note about Sustainable Growth Rate	
4 5	Some Caveats Degarding Financial Dianning Medale 11	a
4.5 4 6	Summary and Conclusions 120	J
4.0		



PART 3 Valuation of Future Cash Flows

CHAPTER 5

INTRODUCTION TO VALUATION: THE TIME VALUE OF MONEY 131

- Future Value and Compounding 132
 Investing for a Single Period 132
 Investing for More Than One Period 132
 A Note about Compound Growth 138
- 5.2 Present Value and Discounting 139 The Single-Period Case 139 Present Values for Multiple Periods 140
- 5.3 More about Present and Future Values 143
 Present versus Future Value 143
 Determining the Discount Rate 144
 Finding the Number of Periods 147
- 5.4 Summary and Conclusions 151

CHAPTER 6

DISCOUNTED CASH FLOW VALUATION 157

- 6.1 **Future and Present Values of Multiple Cash** Flows 158 Future Value with Multiple Cash Flows 158 Present Value with Multiple Cash Flows 160 A Note about Cash Flow Timing 164 Valuing Level Cash Flows: Annuities and 6.2 Perpetuities 165 Present Value for Annuity Cash Flows 165 Annuity Tables 166 Finding the Payment 168 Finding the Rate 169 Future Value for Annuities 171 A Note about Annuities Due 172 Perpetuities 173 Growing Annuities and Perpetuities 175
- 6.3 Comparing Rates: The Effect of Compounding 175
 Effective Annual Rates and Compounding 176
 Calculating and Comparing Effective Annual Rates 176
 EARs and APRs 178
 Taking It to the Limit: A Note about Continuous Compounding 179
- 6.4 Loan Types and Loan Amortization 181 Pure Discount Loans 181 Interest-Only Loans 182 Amortized Loans 182
- 6.5 Summary and Conclusions 187

CHAPTER 7

INTEREST RATES AND BOND VALUATION 202

7.1 Bonds and Bond Valuation 203

Bond Features and Prices 203 Bond Values and Yields 203 Interest Rate Risk 207 Finding the Yield to Maturity: More Trial and Error 208

- 7.2 More about Bond Features 213 Is It Debt or Equity? 213 Long-Term Debt: The Basics 213 The Indenture 214 Terms of a Bond 215 Security 215 Seniority 216 Repayment 216 The Call Provision 216 Protective Covenants 217
- 7.3 Bond Ratings 218
- 7.4 Some Different Types of Bonds 219 Government Bonds 219 Zero Coupon Bonds 220 Floating-Rate Bonds 221 Other Types of Bonds 222 Sukuk 223
- 7.5 Bond Markets 225 How Bonds Are Bought and Sold 226 Bond Price Reporting 226 A Note about Bond Price Quotes 230
- 7.6Inflation and Interest Rates230Real versus Nominal Rates230The Fisher Effect231Inflation and Present Values232
- 7.7 Determinants of Bond Yields 233 The Term Structure of Interest Rates 233 Bond Yields and the Yield Curve: Putting It All Together 236 Conclusion 237
- 7.8 Summary and Conclusions 237

CHAPTER 8

STOCK VALUATION 246

- 8.1 Common Stock Valuation 247 Cash Flows 247 Some Special Cases 248 Zero Growth 249 Constant Growth 249 Nonconstant Growth 252 Two-Stage Growth 254 Components of the Required Return 255 Stock Valuation Using Multiples 256
- **8.2 Some Features of Common and Preferred Stocks** *258*

Common Stock Features 258 Shareholder Rights 258



Proxy Voting 259 Classes of Stock 259 Other Rights 260 Dividends 260 Preferred Stock Features 261 Stated Value 261 Cumulative and Noncumulative Dividends 261 Is Preferred Stock Really Debt? 261 8.3 The Stock Markets 262

CONTENTS

Dealers and Brokers 262 Organization of the NYSE 263 Members 263 Operations 264 Floor Activity 264 NASDAQ Operations 265 ECNs 267 Stock Market Reporting 267 8.4 Summary and Conclusions 269

PART 4 Capital Budgeting

CHAPTER 9

NET PRESENT VALUE AND OTHER INVESTMENT CRITERIA 279

- 9.1 Net Present Value 280 The Basic Idea 280 Estimating Net Present Value 281
- 9.2 The Payback Rule 284 Defining the Rule 284 Analyzing the Rule 286 Redeeming Qualities of the Rule 286 Summary of the Rule 287
- 9.3 The Discounted Payback 288
- 9.4 The Average Accounting Return 290
- 9.5 The Internal Rate of Return 292 Problems with the IRR 296 Nonconventional Cash Flows 296 Mutually Exclusive Investments 298 Investing or Financing? 300 Redeeming Qualities of the IRR 301
 - The Modified Internal Rate of Return (MIRR) 302 Method 1: The Discounting Approach 302 Method 2: The Reinvestment Approach 302 Method 3: The Combination Approach 303 MIRR or IRR: Which Is Better? 303
- 9.6 The Profitability Index 303
- **9.7** The Practice of Capital Budgeting 304
- 9.8 Summary and Conclusions 307

CHAPTER 10

MAKING CAPITAL INVESTMENT DECISIONS 319

- **10.1** Project Cash Flows: A First Look
 320

 Relevant Cash Flows
 320

 The Stand-Alone Principle
 320
- 10.2 Incremental Cash Flows 321 Sunk Costs 321 Opportunity Costs 321 Side Effects 322 Net Working Capital 322

Financing Costs 322 Other Issues 323 10.3 Pro Forma Financial Statements and Project Cash Flows 323 Getting Started: Pro Forma Financial Statements 323 Project Cash Flows 324 Project Operating Cash Flow 324 Project Net Working Capital and Capital Spending 325 Projected Total Cash Flow and Value 325 10.4 More about Project Cash Flow 326 A Closer Look at Net Working Capital 326 Depreciation 329 Modified ACRS Depreciation (MACRS) 329 Bonus Depreciation 330 Book Value versus Market Value 331 An Example: The Majestic Mulch and Compost Company (MMCC) 332 Operating Cash Flows 333 Change in NWC 334 Capital Spending 335 Total Cash Flow and Value 335 Conclusion 335 10.5 Alternative Definitions of Operating Cash Flow 336 The Bottom-Up Approach 337 The Top-Down Approach 337 The Tax Shield Approach 337 Conclusion 338 10.6 Some Special Cases of Discounted Cash Flow Analysis 338 Evaluating Cost-Cutting Proposals 338

Setting the Bid Price 340 Evaluating Equipment Options with Different Lives 342

10.7 Summary and Conclusions 344

CHAPTER 11

PROJECT ANALYSIS AND EVALUATION 357

11.1 Evaluating NPV Estimates 358 The Basic Problem 358

xxxviii

CONTENTS

Projected versus Actual Cash Flows358Forecasting Risk358Sources of Value359

- 11.2 Scenario and Other What-If Analyses 360 Getting Started 360 Scenario Analysis 361 Sensitivity Analysis 364 Simulation Analysis 365
 11.3 Break-Even Analysis 365
 - Fixed and Variable Costs 366 Variable Costs 366 Fixed Costs 367 Total Costs 367 Accounting Break-Even 368 Accounting Break-Even: A Closer Look 370 Uses for the Accounting Break-Even 370
- **11.4 Operating Cash Flow, Sales Volume, and Break-Even** 371 Accounting Break-Even and Cash Flow 371

The Base Case 372

Calculating the Break-Even Level 372 Payback and Break-Even 372 Sales Volume and Operating Cash Flow 373 Cash Flow, Accounting, and Financial Break-Even Points 373 Accounting Break-Even Revisited 374 Cash Break-Even 374 Financial Break-Even 374 Conclusion 375 **11.5 Operating Leverage** 376 The Basic Idea 376 Implications of Operating Leverage 376

- Measuring Operating Leverage 376 Operating Leverage and Break-Even 378 11.6 Capital Rationing 379 Soft Pationing 379
- Soft Rationing 379 Hard Rationing 379
- 11.7 Summary and Conclusions 380

PART 5 Risk and Return

CHAPTER 12

SOME LESSONS FROM CAPITAL MARKET HISTORY 389

12.1Returns390Dollar Returns390Percentage Returns392

- **12.2 The Historical Record** 394 A First Look 394 A Closer Look 396
- **12.3** Average Returns: The First Lesson 401 Calculating Average Returns 401 Average Returns: The Historical Record 401 Risk Premiums 402 The First Lesson 402
- 12.4 The Variability of Returns: The Second Lesson 403
 Frequency Distributions and Variability 403
 The Historical Variance and Standard Deviation 404
 The Historical Record 405
 Normal Distribution 406
 The Second Lesson 408
 2008: A Year to Remember 408
 Using Capital Market History 410
 More on the Stock Market Risk Premium 410
- 12.5 More about Average Returns 412
 Arithmetic versus Geometric Averages 412
 Calculating Geometric Average Returns 412
 Arithmetic Average Return or Geometric Average Return? 415
- **12.6 Capital Market Efficiency** 416 Price Behavior in an Efficient Market 416 The Efficient Markets Hypothesis 417

Some Common Misconceptions about the EMH 418 The Forms of Market Efficiency 419

12.7 Summary and Conclusions 420

CHAPTER 13

RETURN, RISK, AND THE SECURITY MARKET LINE 428

- **13.1 Expected Returns and Variances** 429 Expected Return 429 Calculating the Variance 431
- **13.2 Portfolios** 432 Portfolio Weights 433 Portfolio Expected Returns 433 Portfolio Variance 434
- **13.3** Announcements, Surprises, and Expected Returns 436 Expected and Unexpected Returns 436 Announcements and News 436
- **13.4 Risk: Systematic and Unsystematic** 438 Systematic and Unsystematic Risk 438 Systematic and Unsystematic Components of Return 438
- 13.5 Diversification and Portfolio Risk 439
 The Effect of Diversification: Another Lesson from Market History 439
 The Principle of Diversification 440
 Diversification and Unsystematic Risk 441
 Diversification and Systematic Risk 442
- **13.6 Systematic Risk and Beta** 442 The Systematic Risk Principle 443



Measuring Systematic Risk 443 Portfolio Betas 445

13.7 The Security Market Line 446 Beta and the Risk Premium 446 The Reward-to-Risk Ratio 447 The Basic Argument 448 The Fundamental Result 449

CONTENTS

The Security Market Line451Market Portfolios451The Capital Asset Pricing Model451

13.8 The SML and the Cost of Capital: A Preview 454 The Basic Idea 454 The Cost of Capital 454

13.9 Summary and Conclusions 455

PART 6 Cost of Capital and Long-Term Financial Policy

CHAPTER 14

COST OF CAPITAL 466

14.1 The Cost of Capital: Some Preliminaries 467 Required Return versus Cost of Capital 467 Financial Policy and Cost of Capital 468
14.2 The Cost of Equity 468 The Dividend Growth Model Approach 468 Implementing the Approach 469 Estimating g 469 Advantages and Disadvantages of the Approach 470 The SML Approach 470 Implementing the Approach 471

Advantages and Disadvantages of the Approach 471

- **14.3 The Costs of Debt and Preferred Stock** 472 The Cost of Debt 472 The Cost of Preferred Stock 472
- 14.4 The Weighted Average Cost of Capital 473 The Capital Structure Weights 473 Taxes and the Weighted Average Cost of Capital 474 Calculating the WACC for Eastman Chemical 475 Eastman's Cost of Equity 476 Eastman's Cost of Debt 478 Eastman's WACC 479 Solving the Warehouse Problem and Similar Capital Budgeting Problems 479 Performance Evaluation: Another Use of the WACC 482
 14.5 Divisional and Project Costs of Capital 483 The SML and the WACC 483
 - Divisional Cost of Capital485The Pure Play Approach485The Subjective Approach486

14.6 Company Valuation with the WACC 48714.7 Flotation Costs and the Average Cost

 14.7 Plotation Costs and the Average Cost of Capital 489 The Basic Approach 490 Flotation Costs and NPV 491 Internal Equity and Flotation Costs 492

14.8 Summary and Conclusions 493

CHAPTER 15

RAISING CAPITAL 503

15.1	Entrepreneurship: Early-Stage Financing and Venture Capital 504
	Entrepreneurship 504
	Venture Capital 504
	Some Venture Capital Realities 506
	Venture Capital Firms 507
	Crowdfunding 508
	Initial Coin Offerings (ICOS) 508
	Conclusion 509
15.2	Selling Securities to the Public: The Basic Procedure 509
15.3	Alternative Issue Methods 512
15.4	Underwriters 513
	Choosing an Underwriter 513
	Types of Underwriting 513
	Firm Commitment Underwriting 513
	Best Efforts Underwriting 514
	Dutch Auction Underwriting 514
	The Aftermarket 515
	The Green Shoe Provision 515
	Lockup Agreements 515
	The Quiet Period 516
	Direct Listing 516
15.5	IPOS and Underpricing 516
	IPO Underpricing: The 1999–2000 Experience 517
	Evidence on Underpricing 520
	The Partial Adjustment Phenomenon 521
	Why Does Underpricing Exist? 522
15.6	New Equity Sales and the Value of the Firm 523
15.7	The Costs of Issuing Securities 524
	The Costs of Selling Stock to the Public 524
	The Costs of Going Public: A Case Study 525
15.8	Rights 526
	The Mechanics of a Rights Offering 526
	Number of Rights Needed to Purchase a Share 527
	The Value of a Right 528
	Ex Rights 529
	The Underwriting Arrangements 531
	Effects on Shareholders 531

- 15.9 Dilution 532
 Dilution of Proportionate Ownership 532
 Dilution of Value: Book versus Market Values 532
 A Misconception 533
 The Correct Arguments 533
 15.10 Issuing Long-Term Debt 534
 15.11 Shelf Registration 535
- 15.12 Summary and Conclusions 536

CHAPTER 16

FINANCIAL LEVERAGE AND CAPITAL STRUCTURE POLICY 542

 16.1
 The Capital Structure Question
 543

 Firm Value and Stock Value: An Example
 543

 Capital Structure and the Cost of Capital
 544

- 16.2 The Effect of Financial Leverage 545
 The Basics of Financial Leverage 545
 Financial Leverage, EPS, and ROE: An Example 545
 EPS versus EBIT 546
 Corporate Borrowing and Homemade
 Leverage 548
- 16.3 Capital Structure and the Cost of Equity Capital 549
 M&M Proposition I: The Pie Model 549
 The Cost of Equity and Financial Leverage: M&M Proposition II 550
 Business and Financial Risk 552
- 16.4 M&M Propositions I and II with Corporate Taxes 553 The Interest Tax Shield 554 Taxes and M&M Proposition I 554 Taxes, the WACC, and Proposition II 555 Conclusion 556
- 16.5 Bankruptcy Costs 558 Direct Bankruptcy Costs 559 Indirect Bankruptcy Costs 559

16.6 Optimal Capital Structure 560

The Static Theory of Capital Structure 560
Optimal Capital Structure and the Cost of Capital 561
Optimal Capital Structure: A Recap 562
Capital Structure: Some Managerial Recommendations 564
Taxes 564
Financial Distress 564

16.7 The Pie Again 564
 The Extended Pie Model 565
 Marketed Claims versus Nonmarketed Claims 566

16.8 The Pecking-Order Theory 566 Internal Financing and the Pecking Order 566 Implications of the Pecking Order 567

16.9 Observed Capital Structures 568

16.10 A Quick Look at the Bankruptcy Process 570

Liquidation and Reorganization 570 Bankruptcy Liquidation 570 Bankruptcy Reorganization 571

Financial Management and the Bankruptcy Process 572 Agreements to Avoid Bankruptcy 573 **16.11 Summary and Conclusions** 573

CHAPTER 17

DIVIDENDS AND PAYOUT POLICY 581

17.1 Cash Dividends and Dividend Payment 582
Cash Dividends 582
Standard Method of Cash Dividend Payment 582
Dividend Payment: A Chronology 583
More about the Ex-dividend Date 583
17.2 Does Dividend Policy Matter? 585

An Illustration of the Irrelevance of Dividend Policy 585 Current Policy: Dividends Set Equal to Cash Flow 585 Alternative Policy: Initial Dividend Greater Than Cash Flow 586 Homemade Dividends 586

ΔTest 587

- 17.3 Real-World Factors Favoring a Low Dividend Payout 588 Taxes 588 Flotation Costs 588 Dividend Restrictions 588
- 17.4 Real-World Factors Favoring a High Dividend Payout 589
 Desire for Current Income 589
 Tax and Other Benefits from High Dividends 589
 Corporate Investors 590
 Tax-Exempt Investors 590
 Conclusion 590
- **17.5 A Resolution of Real-World Factors?** 590 Information Content of Dividends 590 The Clientele Effect 591
- 17.6 Stock Repurchases: An Alternative to Cash Dividends 592
 Cash Dividends versus Repurchase 593
 Real-World Considerations in a Repurchase 595
 Share Repurchase and EPS 595
- 17.7 What We Know and Do Not Know about Dividend and Payout Policies 596
 Dividends and Dividend Payers 596
 Corporations Smooth Dividends 598
 Putting It All Together 599
 Some Survey Evidence on Dividends 601
 17.8 Stock Dividends and Stock Splits 603
- Some Details about Stock Splits and Stock Dividends 603 Example of a Small Stock Dividend 603 Example of a Stock Split 604 Example of a Large Stock Dividend 604 Value of Stock Splits and Stock Dividends 604 The Benchmark Case 604 Popular Trading Range 605

Reverse Splits 605

17.9 Summary and Conclusions 606

PART 7 Short-Term Financial Planning and Management

CHAPTER 18

SHORT-TERM FINANCE AND PLANNING 613 18.1 Tracing Cash and Net Working Capital 614 18.2 The Operating Cycle and the Cash Cycle 615 Defining the Operating and Cash Cycles 616 The Operating Cycle 616 The Cash Cycle 616 The Operating Cycle and the Firm's Organizational Chart 617 Calculating the Operating and Cash Cycles 618 The Operating Cycle 618 The Cash Cycle 619 Interpreting the Cash Cycle 620 18.3 Some Aspects of Short-Term Financial Policy 621 The Size of the Firm's Investment in Current Assets 621 Alternative Financing Policies for Current Assets 622 An Ideal Case 624 Different Policies for Financina Current Assets 624 Which Financing Policy Is Best? 626 Current Assets and Liabilities in Practice 627 18.4 The Cash Budget 628 Sales and Cash Collections 628 Cash Outflows 629 The Cash Balance 629 18.5 Short-Term Borrowing 631 Unsecured Loans 631 Compensatina Balances 631 Cost of a Compensating Balance 631 Letters of Credit 632 Secured Loans 632 Accounts Receivable Financing 632 Inventory Loans 633 Other Sources 634 18.6 A Short-Term Financial Plan 634 18.7 Summary and Conclusions 635

CHAPTER 19

CASH AND LIQUIDITY MANAGEMENT 647

19.1 Reasons for Holding Cash 648

The Speculative and Precautionary Motives 648
The Transaction Motive 648
Compensating Balances 648
Costs of Holding Cash 648
Cash Management versus Liquidity Management 649

19.2 Understanding Float 649

Disbursement Float 649
Collection Float and Net Float 650
Float Management 651

Measuring Float 651
Some Details 652

Cost of the Float 653 Ethical and Legal Questions 654 Electronic Data Interchange and Check 21: The End of Float? 655 19.3 Cash Collection and Concentration 656 Components of Collection Time 656 Cash Collection 656 Lockboxes 656 Cash Concentration 658 Accelerating Collections: An Example 659 19.4 Managing Cash Disbursements 660 Increasing Disbursement Float 661 Controlling Disbursements 661 Zero-Balance Accounts 661 Controlled Disbursement Accounts 662 19.5 Investing Idle Cash 662 Temporary Cash Surpluses 662 Seasonal or Cyclical Activities 662 Planned or Possible Expenditures 662 Characteristics of Short-Term Securities 663 Maturitv 663 Default Risk 663 Marketability 663 Taxes 664 Some Different Types of Money Market Securities 664 19.6 Summary and Conclusions 665 19A Determining the Target Cash Balance 670

CHAPTER 20

CREDIT AND INVENTORY MANAGEMENT 680

20.1 Credit and Receivables 680 Components of Credit Policy 681 The Cash Flows from Granting Credit 681 The Investment in Receivables 682 20.2 Terms of the Sale 682 The Basic Form 682 The Credit Period 683 The Invoice Date 683 Length of the Credit Period 683 Cash Discounts 684 Cost of the Credit 684 Trade Discounts 685 The Cash Discount and the ACP 685 Credit Instruments 685 20.3 Analyzing Credit Policy 686 Credit Policy Effects 686 Evaluating a Proposed Credit Policy 687 NPV of Switching Policies 687 A Break-Even Application 689

- 20.4 Optimal Credit Policy 689 The Total Credit Cost Curve 689 Organizing the Credit Function 690
- 20.5 Credit Analysis 691 When Should Credit Be Granted? 691 A One-Time Sale 691 Repeat Business 692 Credit Information 693 Credit Evaluation and Scoring 693
- 20.6 Collection Policy 694 Monitoring Receivables 694 Collection Effort 695
 20.7 Inventory Management 695
- 20.7 Inventory Management 695 The Financial Manager and Inventory Policy 695 Inventory Types 696 Inventory Costs 696

20.8 Inventory Management Techniques 697 The ABC Approach 697 The Economic Order Quantity Model 697 Inventory Depletion 698 The Carrying Costs 699 The Restocking Costs 699 The Total Costs 700 Extensions to the EOQ Model 702 Safety Stocks 702 Reorder Points 702 Managing Derived-Demand Inventories 702 Materials Requirements Planning 702 Just-in-Time Inventory 702 20.9 Summary and Conclusions 704

20A More about Credit Policy Analysis 711

PART 8 Topics in Corporate Finance

CHAPTER 21

INTERNATIONAL CORPORATE FINANCE 718

- 21.1 Terminology 719
- 21.2 Foreign Exchange Markets and Exchange Rates 720

 Exchange Rates 721
 Exchange Rate Quotations 721
 Cross-Rates and Triangle Arbitrage 721
 Types of Transactions 724

 21.3 Purchasing Power Parity 725

 Absolute Purchasing Power Parity 725
 Relative Purchasing Power Parity 727
 The Basic Idea 727
 The Result 727
 Currency Appreciation and Depreciation 728

 21.4 Interest Rate Parity, Unbiased Forward Rates, and the International Fisher Effect 729
 Covered Interest Arbitrage 729
 - Interest Rate Parity 730 Forward Rates and Future Spot Rates 731 Putting It All Together 731 Uncovered Interest Parity 732 The International Fisher Effect 732
- **21.5** International Capital Budgeting 733 Method 1: The Home Currency Approach 733 Method 2: The Foreign Currency Approach 734 Unremitted Cash Flows 735
- 21.6 Exchange Rate Risk 735
 Short-Run Exposure 735
 Long-Run Exposure 736
 Translation Exposure 737
 Managing Exchange Rate Risk 738
 21.7 Political Risk 738
 - The Tax Cuts and Jobs Act of 2017 738 Managing Political Risk 739
- 21.8 Summary and Conclusions 740

CHAPTER 22

BEHAVIORAL FINANCE: IMPLICATIONS FOR FINANCIAL MANAGEMENT 747

- **22.1 Introduction to Behavioral Finance** 748 **22.2 Biases** 748
- Overconfidence 748 Overoptimism 749 Confirmation Bias 749
- 22.3 Framing Effects 750 Loss Aversion 750 House Money 751
- 22.4 Heuristics 753 The Affect Heuristic 753 The Representativeness Heuristic 754 Representativeness and Randomness 754 The Gambler's Fallacy 755
- 22.5 Behavioral Finance and Market Efficiency 756 Limits to Arbitrage 757 The 3Com/Palm Mispricing 757 The Royal Dutch/Shell Price Ratio 758 Bubbles and Crashes 759 The Crash of 1929 759
 - The Crash of October 1987 760 The Nikkei Crash 761 The "Dot-Com" Bubble and Crash 762
- 22.6 Market Efficiency and the Performance of Professional Money Managers 763
- **22.7 Summary and Conclusions** 767

CHAPTER 23

0

ENTERPRISE RISK MANAGEMENT 770

23.1 Insurance 77123.2 Managing Financial Risk 773

xlii

The Risk Profile 773 Reducing Risk Exposure 773 Hedging Short-Run Exposure 774 Cash Flow Hedging: A Cautionary Note 775 Hedging Long-Term Exposure 776 Conclusion 776 23.3 Hedging with Forward Contracts 777 Forward Contracts: The Basics 777 The Pavoff Profile 777 Hedging with Forwards 778 A Caveat 778 Credit Risk 779 Forward Contracts in Practice 779 23.4 Hedging with Futures Contracts 779 Trading in Futures 780 Futures Exchanges 780 Hedging with Futures 780 23.5 Hedging with Swap Contracts 783 Currency Swaps 783 Interest Rate Swaps 784 Commodity Swaps 784 The Swap Dealer 784 Interest Rate Swaps: An Example 785 23.6 Hedging with Option Contracts 786 Option Terminology 786 Options versus Forwards 786 Option Pavoff Profiles 786 Option Hedging 787 Hedging Commodity Price Risk with Options 788 Hedging Exchange Rate Risk with Options 789 Hedging Interest Rate Risk with Options 789 A Preliminary Note 789 Interest Rate Caps 790 Other Interest Rate Options 790 Actual Use of Derivatives 790 23.7 Summary and Conclusions 792

CHAPTER 24

OPTIONS AND CORPORATE FINANCE 797

- 24.1 Options: The Basics 798 Puts and Calls 798 Stock Option Quotations 799 Option Payoffs 800
- 24.2 Fundamentals of Option Valuation 803 Value of a Call Option at Expiration 803 The Upper and Lower Bounds on a Call Option's Value 803 The Upper Bound 804 The Lower Bound 804 A Simple Model: Part I 805

The Basic Approach 805 A More Complicated Case 806

Four Factors Determining Option Values 807

0

CONTENTS

24.3 Valuing a Call Option 808 A Simple Model: Part II 808 The Fifth Factor 809 A Closer Look 810 24.4 Employee Stock Options 811 ESO Features 811 ESO Repricing 811 ESO Backdating 812 24.5 Equity as a Call Option on the Firm's Assets 813 Case I: The Debt Is Risk-Free 814 Case II: The Debt Is Risky 814 24.6 Options and Capital Budgeting 816 The Investment Timing Decision 816 Managerial Options 818 Contingency Planning 818 Options in Capital Budgeting: An Example 819 Strategic Options 820 Conclusion 820 24.7 Options and Corporate Securities 821 Warrants 821 The Difference between Warrants and Call Options 821 Earnings Dilution 822 Convertible Bonds 822 Features of a Convertible Bond 822 Value of a Convertible Bond 822 Other Options 824 The Call Provision on a Bond 824 Put Bonds 824 Insurance and Loan Guarantees 824 24.8 Summary and Conclusions 826

CHAPTER 25

OPTION VALUATION 835

- 25.1 Put-Call Parity 836 Protective Puts 836 An Alternative Strategy 836 The Result 837 Continuous Compounding: A Refresher Course 838
- 25.2 The Black-Scholes Option Pricing Model 841 The Call Option Pricing Formula 841 Put Option Valuation 844 A Cautionary Note 845
- 25.3 More about Black-Scholes 846 Varying the Stock Price 846 Varying the Time to Expiration 849 Varying the Standard Deviation 851 Varying the Risk-Free Rate 851 Implied Standard Deviations 851
- **25.4 Valuation of Equity and Debt in a** Leveraged Firm 854 Valuing the Equity in a Leveraged Firm 855 Options and the Valuation of Risky Bonds 856

CONTENTS

25.5 Options and Corporate Decisions: Some Applications 857 Mergers and Diversification 857 Options and Capital Budgeting 859

25.6 Summary and Conclusions 861

CHAPTER 26

MERGERS AND ACQUISITIONS 869

26.1 The Legal Forms of Acquisitions 870 Merger or Consolidation 870 Acquisition of Stock 871 Acquisition of Assets 871 Acquisition Classifications 872 A Note about Takeovers 872 Alternatives to Merger 873

- **26.2 Taxes and Acquisitions** 873 Determinants of Tax Status 873 Taxable versus Tax-Free Acquisitions 874
- 26.3 Accounting for Acquisitions 874 The Purchase Method 874 More about Goodwill 875
- 26.4 Gains from Acquisitions 876 Synergy 876 Revenue Enhancement 877 Marketing Gains 877 Strategic Benefits 877 Increases in Market Power 878

Cost Reductions 878 Economies of Scale 878 Economies of Vertical Integration 878 Complementary Resources 879

- Lower Taxes 879 Net Operating Losses 879 Unused Debt Capacity 879 Surplus Funds 879 Asset Write-Ups 880 Reductions in Capital Needs 880 Avoiding Mistakes 880
- A Note about Inefficient Management 881
 26.5 Some Financial Side Effects of Acquisitions 881 EPS Growth 881 Diversification 882
- 26.6 The Cost of an Acquisition 883 Case I: Cash Acquisition 884 Case II: Stock Acquisition 884 Cash versus Common Stock 885

26.7 Defensive Tactics 886
The Corporate Charter 886
Repurchase and Standstill Agreements 886
Poison Pills and Share Rights Plans 886
Going Private and Leveraged Buyouts 888
Other Devices and Jargon of Corporate Takeovers 888

- 26.8 Some Evidence on Acquisitions: Does M&A Pay? 889
- 26.9 Divestitures and Restructurings 890
- 26.10 Summary and Conclusions 891

CHAPTER 27

LEASING 900

- 27.1 Leases and Lease Types 901 Leasing versus Buying 901 Operating Leases 902 Financial Leases 902 Tax-Oriented Leases 902 Leveraged Leases 903 Sale and Leaseback Agreements 903
- **27.2 Accounting and Leasing** 903
- **27.3 Taxes, the IRS, and Leases** 905
- 27.4 The Cash Flows from Leasing 905 The Incremental Cash Flows 906 A Note about Taxes 906
- 27.5 Lease or Buy? 907 A Preliminary Analysis 907 Three Potential Pitfalls 908 NPV Analysis 908 A Misconception 909
- 27.6 A Leasing Paradox 910
- 27.7 Reasons for Leasing 911
 Good Reasons for Leasing 912
 Tax Advantages 912
 A Reduction of Uncertainty 913
 Lower Transactions Costs 913
 Fewer Restrictions and Security Requirements 913
 Dubious Reasons for Leasing 913
 100 Percent Financing 913
 Low Cost 914
 Other Reasons for Leasing 914
 27.8 Summary and Conclusions 914

APPENDIX A

MATHEMATICAL TABLES A-1

APPENDIX B

KEY EQUATIONS B-1

APPENDIX C

ANSWERS TO SELECTED END-OF-CHAPTER PROBLEMS C-1

APPENDIX D

USING THE HP 10B AND TI BA II PLUS FINANCIAL CALCULATORS D-1

INDEX I-1





In Their Own Words Boxes

CHAPTER 4

Robert C. Higgins University of Washington On Sustainable Growth

CHAPTER 7

Edward I. Altman New York University On Junk Bonds and Leveraged Loans

CHAPTER 10

Samuel C. Weaver Lehigh University On Capital Budgeting at The Hershey Company

CHAPTER 12

Roger Ibbotson Yale University On Capital Market History

Jeremy Siegel University of Pennsylvania On Stocks for the Long Run

Richard Roll California Institute of Technology On Market Efficiency

CHAPTER 14

Bennett Stewart Stern Stewart & Co. On EVA

Samuel C. Weaver On Cost of Capital and Hurdle Rates at The Hershey Company

CHAPTER 15

Jay R. Ritter University of Florida On IPO Underpricing around the World

CHAPTER 16

Merton H. Miller On Capital Structure: M&M 30 Years Later

CHAPTER 17

Fischer Black On Why Firms Pay Dividends

CHAPTER 22

Hersh Shefrin Santa Clara University On Behavioral Finance

CHAPTER 24

Erik Lie University of Iowa On Option Backdating

Robert C. Merton Harvard University, Massachusetts Institute of Technology On Applications of Options Analysis

Pedagogical Use of Color

Throughout *Fundamentals of Corporate Finance* 2024 Release, we make color a functional dimension of the discussion. In almost every chapter, color plays an extensive and largely self-evident role. Color in these chapters alerts students to the relationship between numbers in a discussion and an accompanying table or figure.

CHAPTER 2

Blue: Identifies net capital spending and change in net working capital Green: Identifies cash flow numbers

CHAPTERS 3 AND 4

Throughout the chapter Blue: Identifies income statements Green: Identifies balance sheets (Also see all 23 ratios in Chapter 3)

CHAPTER 7

Section 7.4 Blue: Identifies the implicit interest expense Green: Identifies the straight-line interest expense

CHAPTER 9

Section 9.5 Blue: Identifies Project A Green: Identifies Project B

CHAPTER 13

Sections 13.1 and 13.2 Blue: Identifies Stock L Green: Identifies Stock U Section 13.7 Blue: Identifies Asset B Green: Identifies Asset A

CHAPTER 14

Section 14.2 Blue: Identifies dollar and percentage changes in dividends Green: Identifies dividends

CHAPTER 15

Section 15.9 Blue: Identifies values of shares with and without dilution Green: Identifies original values of shares

CHAPTER 16

Section 16.2 Blue: Identifies the proposed capital structure Green: Identifies the current capital structure Section 16.4 Blue: Identifies Firm L Green: Identifies Firm U

CHAPTER 18

Section 18.4 Blue: Identifies total cash collections xlvi Green: Identifies total cash disbursements Bold Black: Identifies the net cash inflows

CHAPTER 19

Section 19.2 Blue: Receipts and deposits Green: Total float End-of-chapter Appendix Blue: Identifies contributing costs Green: Identifies the opportunity, trading, and total costs

CHAPTER 20

Section 20.8 Blue: Identifies numbers exceeding the cost-minimizing restock quantity Green: Identifies numbers falling below the cost-minimizing restock quantity Bold Black: Identifies cost-minimizing quantity

CHAPTER 21

Section 21.5 Blue: Identifies cash flows Green: Identifies expected exchange rates

CHAPTER 23

Sections 23.2, 23.3, and 23.6 Blue: Identifies the payoff profile Green: Identifies the risk profile Magenta: Identifies the hedge position

CHAPTER 24

Section 24.1 Blue: Identifies puts Green: Identifies calls Section 24.2 Blue: Identifies stock value Green: Identifies portfolio value

CHAPTER 26

Sections 26.3 and 26.5 (See Tables 26.1 and 26.2) Blue: Identifies Firm A and Global Resources Green: Identifies Firm B and Regional Enterprises Bold Black: Identifies the merged firm, Firm AB, and the merged identity of Global Resources

CHAPTER 27

Tables 27.2 and 27.3 Blue: Identifies cash flow components Green: Identifies total cash flow