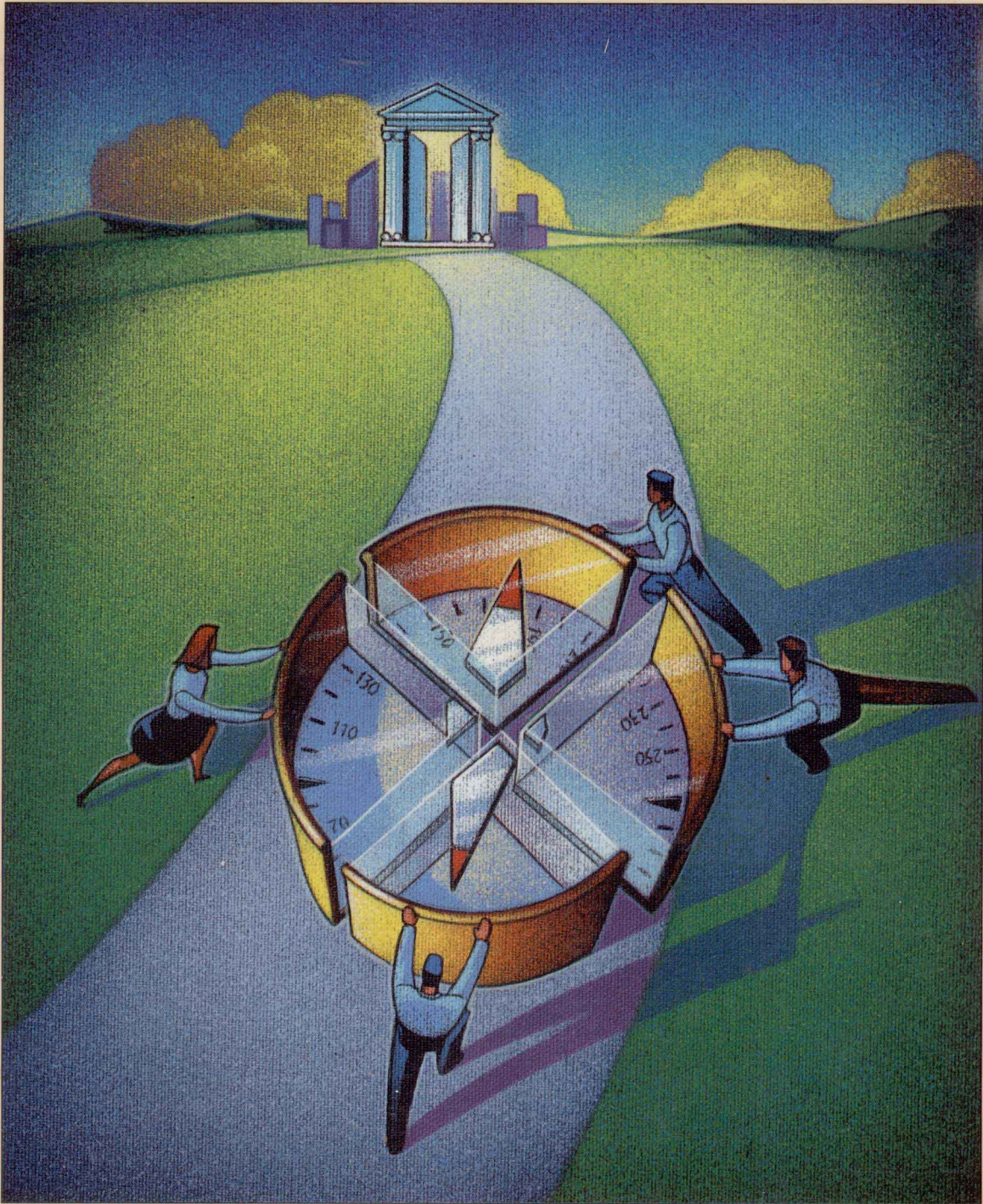


Standard Edition

Ross

Westerfield

Jordan



Fundamentals of

Fifth Edition

Corporate Finance

Standard Edition

Fundamentals of Corporate Finance

Stephen A. Ross

Massachusetts Institute of Technology

Randolph W. Westerfield

University of Southern California

Bradford D. Jordan


University of Kentucky

Fifth Edition



**Irwin
McGraw-Hill**

Boston Burr Ridge, IL Dubuque, IA Madison, WI
New York San Francisco St. Louis
Bangkok Bogotá Caracas Lisbon London Madrid
Mexico City Milan New Delhi Seoul Singapore
Sydney Taipei Toronto

McGraw-Hill Higher Education 

A Division of The McGraw-Hill Companies

FUNDAMENTALS OF CORPORATE FINANCE

Copyright © 2000, 1998, 1995, 1993, 1991 by The McGraw-Hill Companies, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

This book is printed on acid-free paper.

domestic 1 2 3 4 5 6 7 8 9 0 VNH/VNH 9 0 9 8 7 6 5 4 3 2 1 0 9

international 1 2 3 4 5 6 7 8 9 0 VNH/VNH 9 0 9 8 7 6 5 4 3 2 1 0 9

ISBN 0-07-231289-0 (standard edition)

ISBN 0-07-366128-7 (alternate edition)

ISBN 0-07-231290-4 (annotated instructor's edition)

Vice president/Editor-in-chief: *Michael W. Junior*

Publisher: *Craig S. Beytlen*

Senior sponsoring editor: *Randall Adams*

Developmental editor: *Michele Janicek*

Senior marketing manager: *Katie Rose Matthews*

Senior project manager: *Jean Lou Hess*

Senior production supervisor: *Lori Koettters*

Senior designer: *Michael Warrell*

Cover illustrator: © *David Tillinghast*

Supplement coordinator: *Becky Szura*

Compositor: *Carlisle Communications, Ltd.*

Typeface: *10/12 Times Roman*

Printer: *Von Hoffmann Press, Inc.*

Library of Congress Cataloging-in-Publication Data

Ross, Stephen A.

Fundamentals of corporate finance / Stephen A. Ross, Randolph W.

Westerfield, Bradford D. Jordan.—5th ed.

p. cm.—(Irwin/McGraw-Hill series in finance, insurance,
and real estate.)

Includes index.

ISBN (invalid) 0-07-232389-0 (standard)

I. Corporations—Finance. I. Westerfield, Randolph. II. Jordan,
Bradford D. III. Title. IV. Series.

HG4026.R677 2000

658.15—dc21

99-27707

International Edition ISBN 0-07-116831-1

Copyright © 2000. Exclusive rights by The McGraw-Hill Companies, Inc. for manufacture and export.

This book cannot be re-exported from the country to which it is consigned by McGraw-Hill.

The International Edition is not available in North America.

<http://www.mhhe.com>

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

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

Financial Management

Benninga and Sarig

Corporate Finance: A Valuation Approach

Block and Hirt

Foundations of Financial Management
Ninth Edition

Brealey and Myers

Principles of Corporate Finance
Sixth Edition

Brealey, Myers, and Marcus

Fundamentals of Corporate Finance
Second Edition

Brooks

FinGame Online 3.0

Bruner

Case Studies in Finance: Managing for Corporate Value Creation
Third Edition

Chew

The New Corporate Finance: Where Theory Meets Practice
Second Edition

Graduate Management Admissions Council, Robert F. Bruner, Kenneth Eades, and Robert Harris

Finance Interactive: Pre-MBA Series 2000
Second Edition

Essentials of Finance:

With an Accounting Review

Fully interactive CD-ROM derived from Finance Interactive 1997 Pre-MBA Edition

Grinblatt and Titman

Financial Markets and Corporate Strategy

Helfert

Techniques of Financial Analysis: A Guide to Value Creation
Tenth Edition

Higgins

Analysis for Financial Management
Fifth Edition

Kester, Fruhan, Piper, and Ruback

Case Problems in Finance
Eleventh Edition

Nunnally and Plath

Cases in Finance
Second Edition

Ross, Westerfield, and Jaffe

Corporate Finance
Fifth Edition

Ross, Westerfield, and Jordan

Essentials of Corporate Finance
Second Edition

Ross, Westerfield, and Jordan

Fundamentals of Corporate Finance
Fifth Edition

Smith

The Modern Theory of Corporate Finance
Second Edition

White

Financial Analysis with an Electronic Calculator
Fourth Edition

Investments

Bodie, Kane, and Marcus

Essentials of Investments
Third Edition

Bodie, Kane, and Marcus

Investments
Fourth Edition

Cohen, Zinbarg, and Zeikel

Investment Analysis and Portfolio Management
Fifth Edition

Corrado and Jordan

Fundamentals of Investments: Valuation and Management

Farrell

Portfolio Management: Theory and Applications
Second Edition

Hirt and Block

Fundamentals of Investment Management
Sixth Edition

Jarrow

Modelling Fixed Income Securities and Interest Rate Options

Shimko

The Innovative Investor
Excel Version

Financial Institutions and Markets

Cornett and Saunders

Fundamentals of Financial Institutions Management

Johnson

Financial Institutions and Markets: A Global Perspective

Rose

Commercial Bank Management
Third Edition

Rose

Money and Capital Markets: Financial Institutions and Instruments in a Global Marketplace
Seventh Edition

Rose and Kolari

Financial Institutions: Understanding and Managing Financial Services
Fifth Edition

Santomero and Babbal

Financial Markets, Instruments, and Institutions

Saunders

Financial Institutions Management: A Modern Perspective
Third Edition

International Finance

Eun and Resnick

International Financial Management

Kester and Luehrman

Case Problems in International Finance
Second Edition

Levi

International Finance
Third Edition

Levich

International Financial Markets: Prices and Policies

Stonehill and Eiteman

Finance: An International Perspective

Real Estate

Berston

California Real Estate Principles
Seventh Edition

Bueggeman and Fisher

Real Estate Finance and Investments
Tenth Edition

Corgel, Smith, and Ling

Real Estate Perspectives: An Introduction to Real Estate
Third Edition

Lusht

Real Estate Valuation: Principles and Applications

Sirmans

Real Estate Finance
Second Edition

Financial Planning and Insurance

Allen, Melone, Rosenbloom, and VanDerhei

Pension Planning: Pension, Profit-Sharing, and Other Deferred Compensation Plans
Eighth Edition

Crawford

Life and Health Insurance Law
Eighth Edition (LOMA)

Harrington and Niehaus

Risk Management and Insurance

Hirsch

Casualty Claim Practice
Sixth Edition

Kapoor, Dlabay, and Hughes

Personal Finance
Fifth Edition

Kellison

Theory of Interest
Second Edition

Lang

Strategy for Personal Finance
Fifth Edition

Skipper

International Risk and Insurance: An Environmental-Managerial Approach

Williams, Smith, and Young

Risk Management and Insurance
Eighth Edition

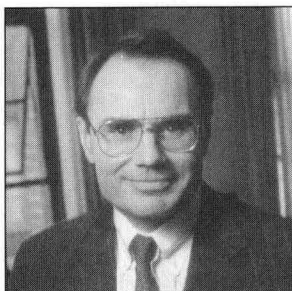
About the Authors



Stephen A. Ross

Massachusetts Institute of Technology

Stephen Ross is presently 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 is recognized for his work in developing the Arbitrage Pricing Theory and his substantial contributions to the discipline through his research in signaling, agency theory, option pricing, and the theory of the term structure of interest rates, among other topics. A past president of the American Finance Association, he currently serves as an associate editor of several academic and practitioner journals. He is a trustee of CalTech, a director of the College Retirement Equity Fund (CREF), and Freddie Mac. He is also the co-chairman of Roll and Ross Asset Management Corporation.



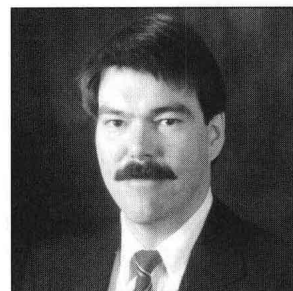
Randolph W. Westerfield

University of Southern California

Randolph W. Westerfield is Dean of the Marshall School of Business at University of Southern California and holder of the Robert R. Dockson Dean's Chair of Business Administration.

From 1988 to 1993, Professor Westerfield served as the chairman of the School's finance and business economics department and the Charles B. Thornton Professor of Finance. He came to USC from The Wharton School, University of Pennsylvania, where he was the chairman of the finance department and member of the finance faculty for 20 years. His areas of expertise include corporate financial policy, investment management and analysis, mergers and acquisitions, and stock market price behavior.

Professor Westerfield has served as a member of the Continental Bank trust committee, supervising all activities of the trust department. He has been consultant to a number of corporations, including AT&T, Mobil Oil and Pacific Enterprises, as well as to the United Nations, the U.S. Department of Justice and Labor, and the State of California.



Bradford D. Jordan

University of Kentucky

Bradford D. Jordan is Professor of Finance and Gatton Research Fellow in the Carol Martin Gatton College of Business and Economics at the University of Kentucky. He has a long-standing interest in both applied and theoretical issues in corporate finance, and has extensive experience teaching all levels of corporate finance and financial management policy. Professor Jordan has published numerous articles on issues such as cost of capital, capital structure, and the behavior of security prices.

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 felt 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 common sense, 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 just nine years later, we would be working on a fifth edition. 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, and South African editions, an International edition, Chinese, Polish, Portuguese, and Spanish language editions, and an entirely separate book, *Essentials of Corporate Finance*, now in its second 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 an enormous amount of feedback we have received from you and your colleagues, we have made this edition and its package even *more flexible* than previous editions. We offer flexibility in coverage, by continuing to offer a variety of editions, and flexibility in pedagogy, by providing a wide variety of features in the book to help students to learn about corporate finance. We also provide flexibility in package options by offering the most extensive collection of teaching, learning, and technology aids of any corporate finance text. Whether you use just the textbook, or the book in conjunction with other products, we believe you will find a combination with this edition that will meet your current as well as your changing needs.

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



Setting a Clear Course

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 principles, while still reviewing important accounting principles very early on. The organization of this text has been developed to give instructors the flexibility they need.

As with the previous edition of the book, we are offering a Standard Edition with 21 chapters, and an Alternate Edition with 25 chapters

Considers the goals of the corporation, the corporate form of organization, the agency problem, and, briefly, financial markets

Succinctly discusses cash flow versus accounting income, market value versus book value, taxes, and a review of financial statements

This part can be omitted entirely if desired without affecting the flow of the other chapters

Contains a thorough discussion of the sustainable growth rate as a planning tool

First of two chapters covering time value of money, allowing for a building-block approach to this concept

Contains an extensive discussion on NPV estimates

Gives students a feel for typical rates of return on risky assets

Discusses the expected return/risk trade-off, and develops the security market line in a highly intuitive way that bypasses much of the usual portfolio theory and statistics

Standard and Alternate Editions Table of Contents

Part One

Overview of Corporate Finance

- 1 Introduction to Corporate Finance
- 2 Financial Statements, Taxes, and Cash Flow

Part Two

Financial Statements and Long-Term Financial Planning

- 3 Working with Financial Statements
- 4 Long-Term Financial Planning and Growth

Part Three

Valuation of Future Cash Flows

- 5 Introduction to Valuation: The Time Value of Money
- 6 Discounted Cash Flow Valuation
- 7 Interest Rates and Bond Valuation
- 8 Stock Valuation

Part Four

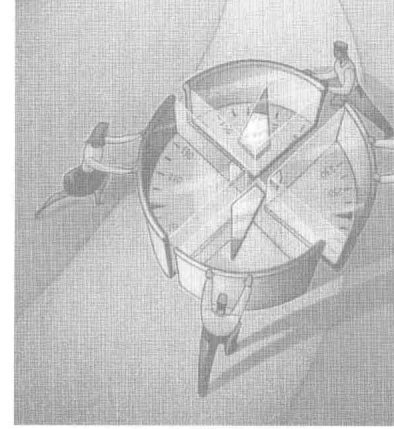
Capital Budgeting

- 9 Net Present Value and Other Investment Criteria
- 10 Making Capital Investment Decisions
- 11 Project Analysis and Evaluation

Part Five

Risk and Return

- 12 Some Lessons from Capital Market History
- 13 Return, Risk, and the Security Market Line



Part Six

Cost of Capital and Long-Term Financial Policy

- 14 Cost of Capital
- 15 Raising Capital
- 16 Financial Leverage and Capital Structure Policy
- 17 Dividends and Dividend Policy

Provides a modern, up-to-date discussion of IPOs and the cost of going public

This chapter can be omitted without a loss in continuity

Part Seven

Short-Term Financial Planning and Management

- 18 Short-Term Finance and Planning
- 19 Cash and Liquidity Management
Appendix 19A—Determining the Target Cash Balance
- 20 Credit and Inventory Management
Appendix 20A—More on Credit Policy Analysis

Presents a general survey of short-term financial management, which is useful when time does not permit a more in-depth treatment

Alternate Edition—Additional Chapters

Choose this edition if you are interested in covering the following additional topics!

Part Eight

Topics in Corporate Finance

- 21 International Corporate Finance
- 22 Risk Management: An Introduction to Financial Engineering
- 23 Options and Corporate Securities
- 24 Mergers and Acquisitions
- 25 Leasing

Same chapter as in the Standard Edition

This increasingly important topic is presented at a level appropriate for an introductory class

Appendix A Mathematical Tables

Appendix B Key Equations

Appendix C Answers to Selected End-of-Chapter Problems

Index



Pedagogy to Guide You

IN ADDITION TO ILLUSTRATING pertinent concepts and presenting up-to-date coverage, *Fundamentals of Corporate Finance* strives to present the material in a way that makes it coherent and easy to understand. To meet the varied needs of the intended audience, *Fundamentals of Corporate Finance* is rich in valuable learning tools and support.

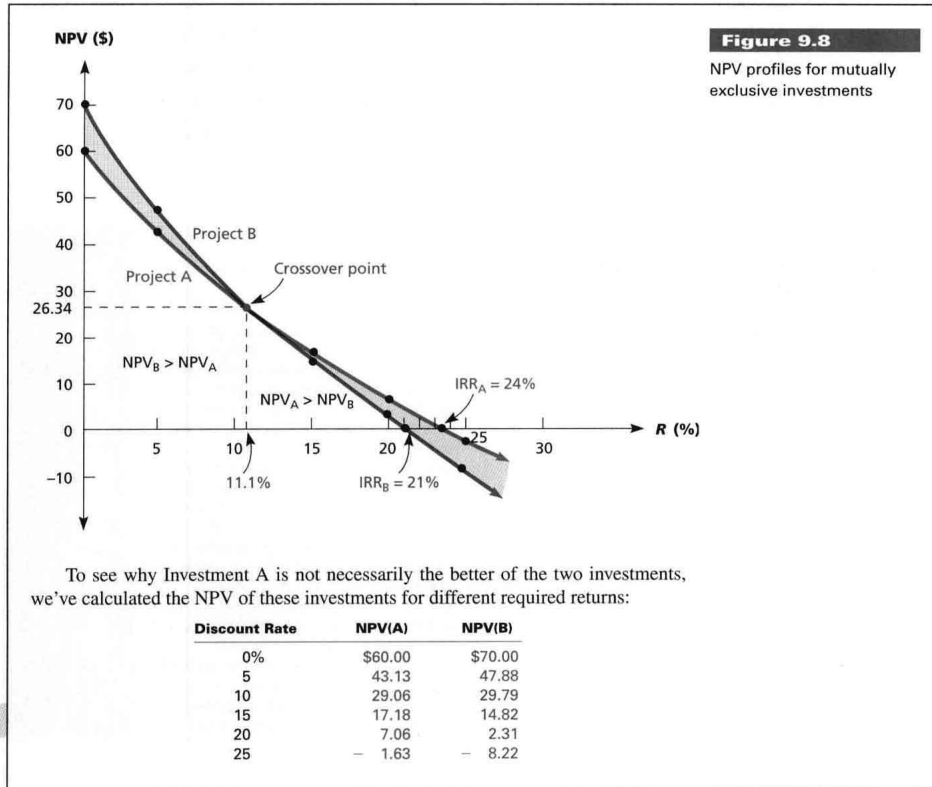
Chapter-Opening Vignettes These are from real-world events and introduce students to the chapter concepts. Questions about these vignettes are posed to the reader to ensure understanding of the concepts in the end-of-chapter material. Check out these engaging applications and their related questions. For examples, see **Chapter 5, pages 118 and 137; Chapter 6, pages 140 and 169; and Chapter 10, pages 278 and 311.**

IN EARLY 1998, General Motors announced plans to launch the Cadillac Escalade, its first truck under the Cadillac brand name and its first luxury sport-utility vehicle (SUV). GM's decision was primarily a reaction to the runaway success of new luxury SUVs such as Ford's Lincoln Navigator and Mercedes-Benz's new M-class. These vehicles were exceptionally profitable; for example, each of the 18,500 Lincoln Navigators that sold in the four months after their introduction in June 1997 generated well over \$10,000 in profit for Ford. GM had previously been unwilling to build a luxury SUV, but these profit margins were too large to ignore.

To answer the next three questions, refer back to the case of the Cadillac Escalade we discussed to open the chapter.

8. In evaluating the Escalade, under what circumstances might GM have concluded that erosion of the Denali line was irrelevant?
9. GM was not the only manufacturer looking at the big sport-utility category. Chrysler, however, initially decided *not* to go ahead with an entry (Chrysler later reversed course on this issue). Why might one company decide to proceed when another would not?
10. In evaluating the Escalade, what do you think GM needs to assume regarding the enormous profit margins that exist in this market? Is it likely they will be maintained when GM and others enter this market?

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 self-evident role. A guide to the functional use of color is found on the endsheets of both the Annotated Instructor's Edition (AIE) and student version. For examples of this technique, see Chapter 3, page 52; Chapter 9, page 264; and Chapter 12, page 370.



Enhanced! Real-World Examples These are integrated throughout the text tying chapter concepts to real life through illustration, reinforcing the relevance of the material. Some examples tie into the Chapter-Opening Vignette for added reinforcement. See Chapter 2, page 28; Chapter 5, page 124; and Chapter 8, page 229.

To give another example, H. Wayne Huizenga wants you to own a piece of the National Hockey League's Florida Panthers. If you buy a share of the Class A stock, you get the right to cast a vote, but that vote won't count for much. To make sure Huizenga doesn't violate NHL bylaws, which require league approval of any change in team control, Huizenga created 255,000 shares of another class of stock (Class B) just for himself. Each of those shares carries 10,000 votes.

In principle, the New York Stock Exchange does not allow companies to create classes of publicly traded common stock with unequal voting rights. Exceptions (e.g., Ford) appear to have been made. In addition, many non-NYSE companies have dual classes of common stock.

New! In Their Own Words Boxes This edition has two series of *In Their Own Words* boxes. The series in blue boxes are the popular articles updated from previous editions written by a distinguished scholar or practitioner on key topics in the text. 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 xxxi.

The series in green boxes features recent college graduates with business degrees who are now important members of the workforce. Their jobs range from finance to marketing to sales to information systems. These boxes help students realize the career opportunities available to them with a business degree. They also feature recent graduates giving helpful advice for success after college. See Chapter 1, page 10; Chapter 4, page 99; and Chapter 13, page 389

In Their Own Words . . .

Clifford W. Smith Jr. on Market Incentives for Ethical Behavior

ETHICS IS A TOPIC that has been receiving increased interest in the business community. Much of this discussion has been led by philosophers and has focused on moral principles. Rather than review these issues, I want to discuss a complementary (but often ignored) set of issues from an economist’s viewpoint. Markets impose potentially substantial costs on individuals and institutions that engage in unethical behavior. These market forces thus provide important incentives that foster ethical behavior in the business community.

At its core, economics is the study of making choices. I thus want to examine ethical behavior simply as one choice facing an individual. Economic analysis suggests that in considering an action, you identify its expected costs and benefits. If the estimated benefits exceed the estimated costs, you take the action; if not, you don’t. To focus this discussion, let’s consider the following specific choice: Suppose you have a contract to deliver a product of a

doubt a firm’s claims about product quality. Where quality is more uncertain, customers are only willing to pay lower prices. Such firms thus have particularly strong incentives to adopt financial policies that imply a lower probability of insolvency. Therefore such firms should have lower leverage, enter fewer leases, and engage in more hedging.

Third, the expected costs are higher if information about cheating is rapidly and widely distributed to potential future customers. Thus information services like *Consumer Reports*, which monitor and report on product quality, help deter cheating. By lowering the costs for potential customers to monitor quality, such services raise the expected costs of cheating.

Finally, the costs imposed on a firm that is caught cheating depend on the market’s assessment of the ethical breach. Some actions viewed as clear transgressions by some might be viewed as justifiable behavior by others. Ethical standards also vary across markets. For example, a payment that if disclosed in the United States would be labeled a bribe might be

In Their Own Words . . .

Recipe for Success: Go Cross-Functional

FINANCE. The word in itself brings to mind images of frantic brokers on the floor of a stock exchange, people who speak in what seems like another language complete with alphabet soup acronyms such as LBO, IPO, LIBOR, and NASDAQ, and a profession that keeps the makers of pain relievers in business.

In much the same way that the image of the bean-counting, pencil-pushing accountant has gone the way of the dinosaur, so too has the misconception that the only opportunities available to finance majors are careers on Wall Street. In my case, finance has opened the door to a challenging career in corporate finance with General Mills, Inc.

After getting an initial look at General Mills through a summer internship, I felt very confident in the many challenges that lay ahead. At General Mills, the finance organization is rotationally based, giving each individual the opportunity to see the business from many different perspectives. In this dynamic environment, the company seeks to develop financial professionals that have a broad sense about the business as a whole, rather than their department in isolation. By developing this background, members of the finance organization

of the coin, receiving a request from a product sales manager, or one of the representatives from a sales region or account, would not be considered outside of the realm of possibility. Finally, I also work closely with the other division trade analysts to examine issues common to all divisions.

My career in the finance organization has the potential to take me many different places. In adhering to their philosophy of well-rounded, business-minded financial professionals, my rotations could take me to a position within a marketing division, analyzing growth and directing the business according to clear financial goals, or possibly to an operations division such as purchasing or distribution, looking at generating productivity improvements and driving costs out of our production processes, or maybe within some of our corporate functions such as treasury operations, financial reporting, or mergers and acquisitions. The possibility also exists to take a more hands-on approach to the business and lead the financial group at one of our production facilities.

I can offer a few words of wisdom to those of you still making decisions about where you want your degree to take you. First, find a way to work on cross-functional projects within the business school, or even

New! Spreadsheet Strategies This feature either introduces students to Excel™ or helps them brush up on their Excel™ spreadsheet skills, particularly as they relate to corporate finance. This feature appears in self-contained sections and shows students how to set up spreadsheets to analyze common financial problems—a vital part of every business student’s education. For examples, see Chapter 5, page 134; Chapter 6, page 146; and Chapter 7, page 187.

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

	A	B	C	D	E
1					
2	Using a spreadsheet to value multiple future cash flows				
3					
4	What is the present value of \$200 in one year, \$400 the next year, \$600 the next year, and				
5	\$800 the last year if the discount rate is 12 percent?				
6					
7	Rate:	0.12			
8					
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					
15		Total PV:	\$1,432.93	=SUM(C10:C13)	
16					
17	Notice the negative signs inserted in the PV formulas. These just make the present values have				
18	positive signs. Also, the discount rate in cell b7 is entered as \$B\$7 (an "absolute" reference)				
19	because it is used over and over. We could have just entered ".12" instead, but our approach is more				
20	flexible.				
21					
22					

Concept Building 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. See Chapter 5, page 127; Chapter 8, page 232; and Chapter 12, page 371 for examples.

Concept Questions

- 8.2a What rights do stockholders have?
- 8.2b What is a proxy?
- 8.2c Why is preferred stock called preferred?

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 examples, see **Chapter 2, page 35; Chapter 6, page 155; and Chapter 7, page 186.**

<p>I. The cash flow identity Cash flow from assets = Cash flow to creditors (bondholders) + Cash flow to stockholders (owners)</p> <p>II. Cash flow from assets Cash flow from assets = Operating cash flow – Net capital spending – Change in net working capital (NWC)</p> <p>where Operating cash flow = Earnings before interest and taxes (EBIT) + Depreciation – Taxes Net capital spending = Ending net fixed assets – Beginning net fixed assets + Depreciation Change in NWC = Ending NWC – Beginning NWC</p> <p>III. Cash flow to creditors (bondholders) Cash flow to creditors = Interest paid – Net new borrowing</p> <p>IV. Cash flow to stockholders (owners) Cash flow to stockholders = Dividends paid – Net new equity raised</p>	<p>Table 2.5 Cash flow summary Trans. 2.7</p>
---	---

Labeled Examples Separate numbered and titled examples are extensively integrated into the chapters as indicated below. These examples provide detailed applications and illustrations of the text material in a step-by-step 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. See **Chapter 2, page 30; Chapter 6, page 149; and Chapter 9, page 250.**

<p>Example 2.4</p> <p>Trans. 2.5 Marginal vs. Average Corporate Tax Rates</p>	<p>Deep in the Heart of Taxes</p> <p>Algernon, Inc., has a taxable income of \$85,000. What is its tax bill? What is its average tax rate? Its marginal tax rate?</p> <p>From Table 2.3, we see that the tax rate applied to the first \$50,000 is 15 percent; the rate applied to the next \$25,000 is 25 percent, and the rate applied after that up to \$100,000 is 34 percent. So Algernon must pay $.15 \times \\$50,000 + .25 \times 25,000 + .34 \times (85,000 - 75,000) = \\$17,150$. The average tax rate is thus $\\$17,150 / 85,000 = 20.18\%$. The marginal rate is 34 percent because Algernon's taxes would rise by 34 cents if it had another dollar in taxable income.</p>
--	--

Highlighted Concepts Throughout the text, important ideas are pulled out and presented in a green box—signaling to students that this material is particularly relevant and critical for their understanding. See **Chapter 7, page 205; Chapter 9, page 253; and Chapter 12, page 396**

<p>Based on the discounted payback rule, an investment is acceptable if its discounted payback is less than some prespecified number of years.</p>
--

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. See Chapter 2, page 39; Chapter 7, page 343; and Chapter 14, page 439.

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 1999 and balance sheets for 1998 and 1999. Next, following our U.S. Corporation examples in

Answer to Chapter Review and Self-Test Problem

2.1 In preparing the balance sheets, remember that shareholders' equity is the residual. With this in mind, Mara's balance sheets are as follows:

MARA CORPORATION					
Balance sheets as of December 31, 1998 and 1999					
	1998	1999		1998	1999
Current assets	\$2,205	\$ 2,429	Current liabilities	\$1,003	\$ 1,225
Net fixed assets	7,344	7,650	Long-term debt	3,106	2,085
			Equity	5,440	6,769
Total assets	<u>\$9,549</u>	<u>\$10,079</u>	Total liabilities and shareholders' equity	<u>\$9,549</u>	<u>\$10,079</u>

The income statement is straightforward:

Concepts Review and Critical Thinking Questions This successful end-of-chapter section introduced in the Fourth Edition facilitates students' knowledge of key principles, and their intuitive understanding of chapter concepts. A number of the questions relate to the Chapter-Opening Vignette—reinforcing student critical-thinking skills and the learning of chapter material. For examples, see Chapter 3, page 79; Chapter 6, page 169; and Chapter 14, page 440.

Concepts Review and Critical Thinking Questions

1. In evaluating an annuity present value, there are four pieces. What are they?
2. As you increase the length of time involved, what happens to the present value of an annuity? What happens to the future value?
3. What happens to the future value of an annuity if you increase the rate r ? What happens to the present value?
4. What do you think about the Tri-State Megabucks lottery discussed in the chapter advertising a \$500,000 prize when the lump-sum option is \$250,000? Is it deceptive advertising?

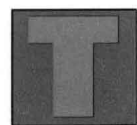
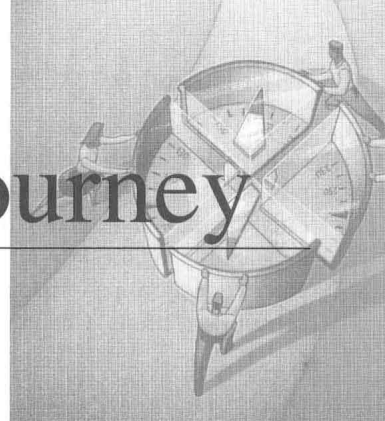
End-of-Chapter Questions and Problems We have found that many students learn better when they have plenty of opportunity to practice; therefore, we provide extensive end-of-chapter questions and problems. The end-of-chapter support greatly exceeds what is typical in an introductory textbook. The questions and problems are segregated into three learning levels: Basic, Intermediate, and Challenge. All problems are fully annotated so that students and instructors can readily identify particular types. Throughout the text, we have worked to supply interesting problems that illustrate real-world applications of chapter material. Answers to selected end-of-chapter material appear in Appendix C. See **Chapter 5**, page 137; **Chapter 6**, page 170; and **Chapter 15**, page 482.

<p>Basic (Questions 1–28)</p> <p>@ 10%: PV = \$2,699.95 @ 18%: PV = \$2,251.68 @ 24%: PV = \$1,990.57</p>	<p style="text-align: center;">Questions and Problems</p> <p>1. Present Value and Multiple Cash Flows Stellato Shaved Ice Co. has identified an investment project with the following cash flows. If the discount rate is 10 percent, what is the present value of these cash flows? What is the present value at 18 percent? At 24 percent?</p>
---	--

<p>Intermediate (Questions 29–59)</p> <p>6.05%</p>	<p>29. Simple Interest versus Compound Interest First Simple Bank pays 8 percent simple interest on its investment accounts. If First Complex Bank pays interest on its accounts compounded annually, what rate should the bank set if it wants to match First Simple Bank over an investment horizon of 10 years?</p>
--	---

<p>Third year: \$800.00 Life of loan: \$4,800.00</p> <p>Challenge (Questions 60–75)</p> <p>EAR = 13.64%</p>	<p>60. Discount Interest Loans This question illustrates what is known as <i>discount interest</i>. Imagine you are discussing a loan with a somewhat unscrupulous lender. You want to borrow \$12,000 for one year. The interest rate is 12 percent. You and the lender agree that the interest on the loan will be $.12 \times \\$12,000 = \\$1,440$. So the lender deducts this interest amount from the loan up front and gives you \$10,560. In this case, we say that the discount is \$1,440. What's wrong here?</p>
---	---

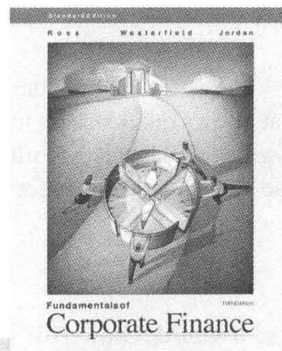
Supplements for the Journey



THIS EDITION OF FUNDAMENTALS has more options than ever in terms of the textbook, instructor supplements, student supplements, and multimedia products. Mix and match to create a package that is perfect for your course!

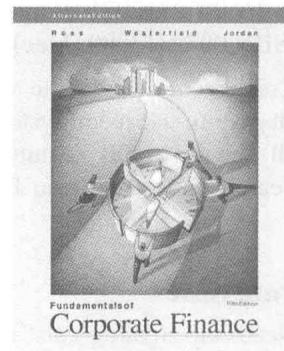
The Textbook

As with the previous edition, we are offering four versions of this text, all packaged with an exciting new student CD-ROM (see description under “Student Supplements”):



Standard Edition
(21 Chapters) 0072319380

**The Wall Street Journal
Edition of the
Standard Edition**
0072319399



Alternate Edition
(25 Chapters) 0072319372

**The Wall Street Journal
Edition of the
Alternate Edition**
0072319402



For the Instructor

Annotated Instructor’s Edition (AIE) ISBN 0072319364

All your teaching resources are tied together here! This handy resource contains extensive references to the Instructor’s Manual regarding lecture tips, ethics notes, internet references, international notes, and the availability of solutions and teaching transparencies. The lecture tips vary in content and purpose—providing an alternative perspective on a subject, suggesting important points to be stressed, giving further examples, or

recommending other readings. The ethics notes present background on topics that can be used to motivate classroom discussion of finance-related ethical issues. Other annotations include: notes for the Real-World Tips; Concept Questions; Self-Test Problems; End-of-Chapter Problems; Videos; and answers to the end-of-chapter problems.

Instructor’s Manual ISBN 0072312947, prepared by Thomas H. Eysell, University of Missouri–St. Louis

A great place to find new lecture ideas! The IM contains three main sections. The first section contains a chapter outline and other lecture materials designed for use with the Annotated Instructor’s Edition. There is an annotated outline for each chapter, and included in the

outlines are lecture tips, real-world tips, ethics notes, suggested overhead transparencies, and when appropriate, a video synopsis. Also included are detailed solutions for all end-of-chapter problems with selected transparency masters.

Test Bank 0072312955, prepared by David R. Kuipers, Texas Tech University

New format for a better testing process! The Fifth Edition Test Bank has been thoroughly reorganized to more closely link with the text. Each chapter is divided into four parts: Part I contains questions that test the understanding of the key terms in the book. Part II includes questions patterned after the learning objectives, concept questions, Chapter-Opening Vignettes, boxes,

and highlighted phrases. Part III contains multiple-choice and true/false problems patterned after the end-of-chapter questions, in basic, intermediate, and challenge levels. Part IV provides essay questions to test problem-solving skills and more advanced understanding of concepts.

Computerized Testing Software

ISBN 0072312971 (Windows)

ISBN 0072313080 (Mac)

Create your own tests in a snap! This software includes an easy-to-use menu system that allows quick access to all the powerful features available. The Keyword Search option lets you browse through the question

bank for problems containing a specific word or phrase. Password protection is available for saved tests or for the entire database. Questions can be added, modified, or deleted.

TeleTest

Need help creating tests? Call us! Irwin/McGraw-Hill's free customized exam preparation service! Simply choose your desired questions from the Test Bank and

call 1-800-338-3987 to order your test. Test and answer keys are printed on a laser printer according to the specifications provided and mailed to you.

Transparency Acetates ISBN 0072313110

Add visuals to your lectures! Offering both Teaching and Solutions Transparencies, this package includes over 350 acetates for use with this text. The majority of the acetates are supplemental exhibits and examples, in addition to selected figures and tables from the text. Selected solutions transparencies for end-of-chapter problems are also available—with portions of each solutions transparency blank, designed specifically for interactive classroom problem-solving.

The transparency package, separated by chapters, contains the teaching transparencies first, followed by the solutions transparencies. A complete list of transparencies appears in the Instructor's Manual, with annotations for the transparencies located in the margins of the AIE.

PowerPoint Presentation System ISBN 0072313099, prepared by Thomas H. Eysell, University of Missouri–St. Louis.

Customize our content for your course! This presentation system allows you to show the transparencies in color format using your PC and a computer projector. Packaged with the PowerPoint Viewer, you can display the entire transparency package that accompanies this

edition. If you already have PowerPoint installed on your PC, you have the ability to edit, print, or rearrange the complete transparency presentation to meet your specific needs.

New! Instructor CD-ROM ISBN 0072312963

Keep all the supplements in one place! This CD contains all the necessary supplements—Instructor's

Manual, Test Bank, and PowerPoint—all in one useful product in an electronic format.