Eugene F. Brigham Michael C. Ehrhardt FINANCIAL MANAGEMENT Theory and Practice 10th Edition

Financial Management

Theory and Practice

Tenth Edition

Eugene F. Brigham
University of Florida

Michael C. Ehrhardt University of Tennessee



Australia • Canada • Mexico • Singapore • Spain United Kingdom • United States



PUBLISHER: Mike Roche EXECUTIVE EDITOR: Mike Reynolds DEVELOPMENTAL EDITOR: Amy Holmes MARKETING MANAGER: Charlie Stutesman

PROJECT MANAGER: Erin Gregg

Copyright © 2002 Thomson Learning, Inc. Thomson Learning™ is a trademark used herein under license

ALL RIGHTS RESERVED. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including but not limited to photocopying, recording, taping, Web distribution, information networks, or information storage and retrieval systems—without the written permission of the publisher.

2 3 4 5 6 7 05 04 03 02 01

For more information about our products contact us at:
Thomson Learning Academic Resource Center
1-800-423-0563

For permission to use material from this text, contact us by:

Phone: 1-800-730-2214 Fax: 1-800-730-2215

Web: http://www.thomsonrights.com

Library of Congress Catalog Card Number: 00-111721 ISBN: 0-03-033561-2

COVER IMAGE: Stone/Bruce Rogovin COVER PRINTER: Lehigh Press, Inc. COMPOSITOR: Clarinda

PRINTER: R.R. Donnelley Willard

Asia

Thomson Learning 60 Albert Street, #15-01 Albert Complex Singapore 189969

Australia

Nelson Thomson Learning 102 Dodds Street South Melbourne, Victoria 3205 Australia

Canada

Nelson Thomson Learning 1120 Birchmount Road Toronto, Ontario M1K 5G4 Canada

Europe/Middle East/Africa

Thomson Learning Berkshire House 168-173 High Holborn London WC1 V7AA United Kingdom

Latin America

Thomson Learning Seneca, 53 Colonia Polanco 11560 Mexico D.F. Mexico

Spain

Paraninfo Thomson Learning Calle/Magallanes, 25 28015 Madrid, Spain

Financial Management Theory and Practice

Tenth Edition

Preface



For more information about this text be sure to visit the Financial Management web site at http://www.harcourtcollege.com/finance/theory.

When we wrote the first edition of *Financial Management: Theory and Practice*, we had four goals: (1) to create a text that would help people make better financial decisions; (2) to provide a book that could be used in the introductory MBA course, but one that was complete enough for use as a reference text in follow-on case courses and after graduation; (3) to motivate students by demonstrating that finance is both interesting and relevant; and (4) to make the book clear enough so that students could go through the material without wasting time trying to figure out what we were saying.

As the title indicates, the book combines theory and practical applications. An understanding of finance theory is essential if students are to develop and implement effective financial strategies, and students also need a good working knowledge of the financial environment. Therefore, the book begins with some basic information and concepts, including background materials on the economic and financial environment, an overview of financial statement analysis, and the essentials of risk analysis and the valuation process. With this background, students can understand the specific techniques and decision rules that are used to help maximize the value of the firm. This structure has three important advantages:

- 1. Financial management is designed to help maximize the value of a firm. Value is determined by results as revealed in financial statements. Therefore, financial managers should understand how the decisions they make today will affect future financial statements, and our early coverage of this topic helps students see what financial management is all about. Also, most financial decisions are analyzed using spreadsheets, and if an instructor plans to have students use spreadsheets in the course, financial statement analysis provides an excellent starting point.
- 2. The early coverage of risk analysis, discounted cash flow techniques, and valuation permits us to use and reinforce these concepts throughout the book.
- 3. Students, even those who do not plan to major in finance, generally enjoy working with stock and bond valuation models, rates of return, and the like. Because the ability to learn a subject is a function of interest and motivation, and because *Financial Management* covers securities and markets early on, the book's organization is sound from a pedagogic standpoint.

Intended Market and Use

Financial Management is designed for use in a one-term introductory MBA course and as a reference for follow-on case courses and on the job. However, there is enough material for two terms, especially if supplemented with cases and/or selected readings. The book can also be used as an undergraduate introductory text with exceptionally good students, or where the introductory course is taught over two terms.

Major Changes in the Tenth Edition

As in every revision, we updated and clarified sections throughout the text. In addition, we made three major changes:

1. Restructuring and Web/CD materials. Over the years, financial researchers have developed new theories, the financial markets have spawned many new types of securities, consulting firms have developed new ways of thinking about financial practices, computers have facilitated better ways of analyzing decisions, and businesses have become increasingly global. Much of this new information simply must be added to the text, because without it students would be obsolete even before they graduate. However, this could result in a textbook that overwhelms students with more material than they can digest.

With this in mind, we reviewed every chapter to identify those core topics that are essential, those specialized topics that are important but not essential for every introductory finance course, and those topics that no longer warrant coverage. The core topics are covered in the text itself, as are some of the specialized but not essential materials. Other material deemed useful for reference purposes but not essential is now provided in four-color Adobe PDF files both on the CD-ROM that is packaged with the textbook and on the textbook's web site. Eleven chapters now have a "Web/CD Extension," and three entire chapters (Working Capital Management: Extensions, Pension Plan Management, and Financial Management in Notfor-Profit Businesses) were relegated to those media. This blending of a traditional textbook and an e-book results in a comprehensive introductory textbook plus easy access to additional specialized materials that the instructor may choose to cover. In addition, the Web/CD material gives students an enriched reference library that will be helpful in later courses and in their careers.

- 2. **New material.** Financial managers strive to maximize shareholder value, and this requires a focus on cash flow. Therefore, we wrote a new chapter that consolidates material on free cash flow, corporate valuation, value-based management, corporate governance, and incentive compensation. We also increased our coverage of real options and initial public offerings.
- 3. **Integration of spreadsheets and web-based data.** Proficiency with spreadsheets is an absolute necessity for all MBA students. With this in mind, we created an *Excel* spreadsheet, called a "Tool Kit," for each chapter to show how the calculations required in the chapter are done with *Excel*. The Tool Kit models include comments and screen shots that explain how to use many of the features and functions of *Excel*; thus, the Tool Kits also serve as self-taught tutorials on *Excel* itself.

In recent years the amount of useful financial data on the Web has grown exponentially. Unfortunately, so has the amount of not-so-useful Web material. This makes it difficult to determine which web site has the particular information we need, and even when we locate the right web site, navigating it is often difficult. To help others get to the information that is most relevant for financial management, we created a set of *Word* documents called "Web Safaris" that begin with a description of the data needed to solve a problem such as comparing a company's ratios with industry averages. The *Word* document has a hyperlink to the appropriate web site, along with a series of screen shots that take the user step-by-step through the site to the desired data.

The Tool Kits and Web Safaris are located on both the CD-ROM and the Instructor's portion of the text's web site.



The Financial Management web site is http://www.harcourtcollege.com/finance/theory.



The Financial Management web site is http://www. harcourtcollege.com/finance/theory.

Other Changes in the Tenth Edition

The entire book was reviewed for completeness, ease of exposition, and currency, and hundreds of small and not-so-small changes were made during this review. Some examples include the following.

1. Improved linkage with the World Wide Web. The rapid growth of the World Wide Web is creating almost limitless opportunities for improving financial education. We enhanced the web site for this Tenth Edition, and the site now provides teaching and learning tools for instructors and students. Students can access archived news summaries, use our database of financial research links, and more. Instructors have access to NewsWire, which provides summaries of recent articles from major business publications plus discussion questions and references to the text. Instructors can also download selected ancillaries, sample teaching materials, and share ideas with us and others who are using the book.

We also incorporated additional links throughout the text in marginal notes entitled "On the WWW" to direct readers to web sites relevant to the subject being covered at that point. Also, as noted above, our "Web Safaris," with their hyperlinks and screen shots, guide readers to the data needed to deal with specific problems. Finally, we added some "Cyberproblems" to the end-of-chapter materials, which require students to track down and apply information from the Web.

- 2. Placement of financial forecasting early in the book. We moved forecasting from Part Five to Part One, and we now flow seamlessly from historical statements and ratios to forecasts of these items. Covering forecasting early helps students see how alternative strategies and decisions affect future financial statements, and thus the firm's value.
- 3. **Term structure of interest rates.** We clarified our somewhat confusing term structure discussion, and we now make a smooth transition from interest rate levels to the factors that influence the level and shape of the yield curve.
- 4. **Beta calculations.** Chapter 6, which introduces risk, return, and the CAPM, now shows how to calculate beta for an actual company, Wal-Mart. The calculation is discussed in the chapter, and the Tool Kit uses *Excel* to estimate the beta. We also include a Web Safari that shows how to obtain the returns needed for the calculation and another Safari that shows how to obtain published betas from the Web if you don't want to calculate your own.
- 5. Beyond the CAPM. We broadened the coverage of the second risk chapter to include asset pricing models that go beyond the CAPM. In particular, we added a detailed description of the Fama-French Three-Factor Model, plus a brief introduction to behavioral finance.
- 6. **Time value of money.** We broadened our discussion of spreadsheets for solving time value problems, and the chapter's Tool Kit provides annotations that explain how to use the key *Excel* financial functions. Also, we relegated the tabular approach to a Web/CD Extension to streamline the chapter.
- 7. Value-based management and corporate governance. We shifted the corporate valuation model from the stock chapter and combined it with some new material on value-based management and corporate governance to create a new chapter.
- 8. Capital budgeting. We reorganized and streamlined the three capital budgeting chapters. The first chapter still covers basic capital budgeting, but with more emphasis on spreadsheet solutions. The second chapter still covers cash flow estimation, but since cash flow estimation and risk analysis (sensitivity, scenario, and



The Financial Management web site is http://www.harcourtcollege.com/finance/theory.

simulation analysis) are typically done at the same time and within the same spreadsheet, we combined cash flow estimation and risk analysis.

We also developed a special Tool Kit for simulation analysis in capital budgeting, using an *Excel* Add-In graciously provided by Professor Roger Myerson of Northwestern University. If an instructor so chooses, he or she can have students simulate a capital budgeting project without the need for a proprietary software package.

The third major change in the capital budgeting section is the restructuring and reworking of the material on real options. We now begin this section with a discussion of financial options as a lead-in to real options, after which we discuss different procedures for bringing real options into the capital budgeting analysis.

- 11. **The Hamada model.** Capital structure decisions are always a bit nebulous, so to provide more structure to this discussion, we moved the Hamada model into the first chapter on capital structure.
- 12. **Initial public offerings (IPOs).** The IPO market has recently been one of the most exciting areas of finance, especially for people with an entrepreneurial bent, so we expanded and improved our coverage of investment banking in general and IPOs in particular.

The Instructional Package: An Integrated Approach to Learning

Financial Management includes a broad array of ancillary materials designed both to enhance students' learning and to help instructors prepare for and conduct classes. These ancillaries are included on both the Instructor's Resource CD-ROM and the textbook's web site.

- 1. *Instructor's Manual*. This comprehensive manual contains answers to all text questions and problems, plus detailed solutions to the end-of-chapter Mini Cases. It is available in print form as well as *Microsoft Word*.
- 2. PowerPoint slides. Each chapter has a Mini Case that covers all the essential issues presented in the chapters, and it can be used to provide structure for lectures. There are PowerPoint slides based on the Mini Case that present graphs, tables, lists, and calculations sequentially, much as one might present them on a blackboard or in transparencies. However, the slides are more crisp, clear, and colorful, and they use color coding to tie elements of a given slide together. Copies of these files are on the Instructor's Resource CD-ROM, the text's web site, and the Student CD-ROM. Also, to help students take notes, printed copies of the slides are available in the Blueprints ancillary, which is described later in this section.
- 3. **Mini Case spreadsheets.** In addition to the *PowerPoint* slides, we also provide *Excel* spreadsheets that do the calculations required in the Mini Cases. These are similar to the Tool Kits for the chapter, except (a) the numbers in the examples correspond to the Mini Case rather than the chapter per se, and (b) we added some features that make it possible to do what-if analysis on a real-time basis in class. We usually begin our lectures with the *PowerPoint* presentation, but after we have explained a basic concept we "toggle" to the *Excel* file and show how the case analysis is done in *Excel*. For example, when teaching bond pricing, we begin with the *PowerPoint* show and cover the basic facts and calculations. Then we

¹Note: To toggle between two open programs, such as *Excel* and *PowerPoint*, hold the Alt key down and hit the Tab key until you have selected the program you want to show.

- toggle to the *Excel* sheet and use a graph to show how bond prices change as the interest rate varies. Many of our students also bring their laptops to class, and they follow along, doing the what-if analysis themselves.
- 4. **Web Safaris.** As noted earlier, we became frustrated with our own searches on the Internet, so we created a series of *Word* files that keep us from reinventing the wheel. Each Web Safari has a specific goal, such as finding the current spreads between government bonds and risky bonds with different ratings. The file has a hyperlink to the appropriate web site (http://www.bondsonline.com in this example) and screen shots that show how to navigate to the desired information. As noted earlier, we usually begin our lecture with the *PowerPoint* presentation, but we occasionally "toggle" to a Web Safari. When we teach in a wired classroom, we actually go on the Safari and bring up real-time data. When we aren't in a wired classroom, we just show the data from the file's screen shots.
- 5. Blueprints. As technological advances led lectures away from the blackboard, it became increasingly important to provide students with hard copies of the lecture materials. Students must have printed copies if they are to focus on the lecture yet still take useful notes. After some experimentation, we concluded that Blueprints would be most useful if it simply provided copies of the PowerPoint slides, along with space for notes and comments. Note too that since Blueprints covers the key points made in the chapters, it is not necessary for instructors to lecture on every single topic.

When we teach the intro MBA course, we use a "course pack" that consists of our syllabus, a 10- to 12-page calculator tutorial (taken from the *Technology Supplement* described below), some old exams, and *Blueprints*. We can provide such a package to bookstores; for further information, contact your local sales representative. We also make the *PowerPoint* files available on our class web site for those students who prefer to work online.

6. Test Bank. Although some instructors don't like multiple-choice questions, they do provide a useful means for testing students on certain topics. If they are used, it is important that the questions be both unambiguous and consistent with the lectures and assigned readings. To meet this need, we developed a Test Bank that contains more than 1,200 class-tested questions and problems. It is available both in print and on the Instructor's Resource CD-ROM. A number of new and thoroughly class-tested conceptual questions and problems, which vary in level of difficulty, have been added to the Test Bank. Information regarding the topic and degree of difficulty, along with the complete solution for all numerical problems, is provided with each question.

The *Test Bank* is available in book form, in *Microsoft Word* files, and in a computerized test bank, EXAMaster+, which has many features that make test preparation, scoring, and grade recording easy. For example, EXAMaster+ can automatically convert multiple-choice questions and problems into free-response questions, and it can alter the sequence of test questions to make different versions of a given test. The software also makes it easy to add to or edit the existing test items, or to compile a test that covers a specific set of topics. Of course, instructors who don't want to use EXAMaster+ can instead cut and paste questions from the *Word* files.

7. End-of-chapter spreadsheet problems. Most chapters have two types of spreadsheet problems. The first is a "Build a Model" problem, where students start with a spreadsheet that contains financial data plus instructions for solving a particular problem. The model is partially completed, with headings but no formulas, so the student must literally build the model. This structure guides the student through the problem, and it also makes it easier to grade the work, since all students' answers are in the same locations on the spreadsheet. The second

- type of spreadsheet problem is called "What If Analysis." Here students start with a spreadsheet containing data, instructions, and a completed model, plus a series of questions that asks them to change certain inputs and to observe changes in the key outputs, which helps them become more aware of the risks inherent in most financial decisions. The "What If Analysis" spreadsheet and the partial spreadsheets for the "Build a Model" problems are on the Student CD-ROM. The solutions to the spreadsheet problems are in files on the Instructor's Resource CD-ROM and web site.
- 8. **End-of-chapter Cyberproblems.** Most chapters contain Cyberproblems that require students to go to specific web sites and answer a series of questions. The problems are located on the text's web site, and they are updated as needed to remain current. Answers are available to Instructors on the web site.
- 9. Student CD-ROM. The textbook comes with a CD-ROM that contains Power-Point shows, Excel Tool Kits, Excel models for the end-of-chapter Mini Cases, Word files for the Web Safaris, Excel models for the end-of-chapter "What If Analysis" spreadsheet problems, partial Excel models for the end-of-chapter "Build a Model" spreadsheet problems, and chapter extension reference material.
- 10. **Instructor's Resource CD-ROM.** This CD contains all of the information on the student version (with the exception of the Web/CD Chapters and Extensions) plus *Word* files for the *Instructor's Manual* and the *Test Bank* and *Excel* files with the solutions to the "Build a Model" problems. This material is also available on the Instructor's portion of the web site.
- 11. **Transparencies.** About 250 lecture transparency acetates are available from South-Western.
- 12. **Digital Finance Case Library.** More than 100 cases written by Eugene F. Brigham and Linda Klein are now available via the Web, and new cases are added every year. These cases are in a customized case database that allows instructors to select cases and create their own customized casebooks. Most of the cases have accompanying spreadsheet models that, while not essential for working the case, do reduce number crunching and thus leave more time for students to consider conceptual issues. The models also show students how computers can be used to make better financial decisions. Cases that we have found particularly useful for the different chapters are listed in the end-of-chapter references.

All of the cases, case solutions, and spreadsheet models can be previewed by professors from the Finance Case web site at http://www.harcourtcollege.com/finance/fincase with proper access. For professorial access contact your sales representative.

- 13. **Technology Supplement.** This ancillary contains tutorials for five commonly used financial calculators and for *Microsoft Excel*, *Lotus 1-2-3*, and *PowerPoint*. The calculator tutorials cover everything a student needs to know about calculators to work the problems in the text, and we provide the tutorials for selected calculators as a part of our course pack. The rather large manuals that accompany most calculators intimidate some students, and they find our 12-page, course-specific tutorials far easier to use. The spreadsheet tutorials teach students the basics plus some advanced spreadsheet features, and they prepare students to work with the specific finance models provided in the Tool Kits. Finally, the *PowerPoint* tutorial is useful to students who must make presentations or to instructors who want to make slides for use in their lectures.
- 14. **Finance NewsWire.** A problem inherent in printed textbooks is keeping them current in a constantly changing world. When Orange County goes bankrupt, or the Nasdaq crashes, it would be useful to relate these events to the textbook. However, the World Wide Web can help us keep up to date. Adopters of *Financial*

- Management will have access to a South-Western web site that provides summaries of recent articles in The Wall Street Journal, Business Week, and other business publications, along with discussion questions and references to the text. This helps incorporate late-breaking news into classroom discussions. Instructors can also use the accompanying questions for quizzes and/or exams.
- 15. Study Guide. This supplement outlines the key sections of each chapter, and it provides students with a set of questions and problems similar to those in the text and in the Test Bank, along with worked-out solutions. Instructors seldom use the Study Guide themselves, but some students find it useful, so we recommend that instructors ask their bookstores to have copies available. Our bookstore generally has to reorder it, which attests to its popularity with students.

Acknowledgments

This book reflects the efforts of a great many people over a number of years. First, we would like to thank the following people who helped us with the Tenth Edition

Boston College Michael Barry Phil Gardial SMG Fairfax

Janet Hamilton Portland State University Theodor Kohers Mississippi State University Frank O'Meara Keller School of Management David Overbye Keller School of Management

Jay Ritter University of Florida

Elizabeth Shields California State University-Fresno Mark Stohs California State University-Fullerton

Second, earlier versions of individual chapters or groups of chapters were reviewed by professors and professionals who are experts on specific topics. We are grateful for the insights provided by

Edward I. Altman New York University Mary Schary Amram Analysis Group Economics Nasser Arshadi University of Missouri Abdul Aziz Humboldt State University William Beranek University of Georgia Gordon R. Bonner University of Delaware

Ben S. Branch Bank of New England and University of Massachusetts

Wichita State University

David T. Brown University of Florida Mark Flannery University of Florida E. Bruce Frederickson Syracuse University University of Toronto Myron Gordon Brigham Young University Hal Heaton John Helmuth Rochester Institute of Technology Eastern Washington University Hugh Hunter Oklahoma State University James E. Jackson Vahan Janjigian Northeastern University Keith H. Johnson University of Kentucky Robert Kieschnick George Mason University

Ilene Levin

James T. Lindley

P. Doniel Page

University of Minnesota-Duluth
University of South Mississippi
Valuemain University

R. Daniel Pace Valparaiso University

Ralph A. Pope California State University-Sacramento

Allen Rappaport

Michael Ryngaert

Fiona Robertson

James Schallheim

G. Bennett Stewart

University of Northern Iowa
University of Florida
Seattle University
University of Utah
Stern Stewart & Co.

Robert Strong University of Maine at Orono
Eugene Swinnerton University of Detroit—Mercy

Robert Taggart Boston College

Jonathan Tiemann Wells Fargo Nikko Investment Advisors

Sheridan Titman University of Texas at Austin

Alan L. Tucker

David Vang

Gary R. Wells

Temple University

University of St. Thomas

Idaho State University

David Ziebart University of Illinois at Urbana

In addition, we would like to thank the following people, whose reviews and comments on prior editions and companion books have contributed to this edition: Mike Adler, Syed Ahmad, Sadhana M. Alangar, Ed Altman, Bruce Anderson, Ron Anderson, Bob Angell, Vince Apilado, Henry Arnold, Bob Aubey, Gil Babcock, Peter Bacon, Kent Baker, Tom Bankston, Les Barenbaum, Charles Barngrover, Bill Beedles, Moshe Ben-Horim, Bill Beranek, Tom Berry, Bill Bertin, Roger Bey, Dalton Bigbee, John Bildersee, Russ Boisjoly, Keith Boles, Geof Booth, Kenneth Boudreaux, Helen Bowers, Oswald Bowlin, Don Boyd, G. Michael Boyd, Pat Boyer, Joe Brandt, Elizabeth Brannigan, Greg Brauer, Mary Broske, Dave Brown, Kate Brown, Bill Brueggeman, Kirt Butler, Robert Button, Bill Campsey, Bob Carleson, Severin Carlson, David Cary, Steve Celec, Don Chance, Antony Chang, Susan Chaplinsky, Jay Choi, S. K. Choudhury, Lal Chugh, Maclyn Clouse, Margaret Considine, Phil Cooley, Joe Copeland, David Cordell, John Cotner, Charles Cox, David Crary, John Crockett, Roy Crum, Brent Dalrymple, Bill Damon, Joel Dauten, Steve Dawson, Sankar De, Miles Delano, Fred Dellva, Anand Desai, Bernard Dill, Greg Dimkoff, Les Dlabay, Mark Dorfman, Gene Drycimski, Dean Dudley, David Durst, Ed Dyl, Dick Edelman, Charles Edwards, John Ellis, Dave Ewert, John Ezzell, Richard Fendler, Michael Ferri, Jim Filkins, John Finnerty, Susan Fischer, Steven Flint, Russ Fogler, Dan French, Tina Galloway, Michael Garlington, Jim Garvin, Adam Gehr, Jim Gentry, Philip Glasgo, Rudyard Goode, Walt Goulet, Bernie Grablowsky, Theoharry Grammatikos, Ed Grossnickle, John Groth, Alan Grunewald, Manak Gupta, Sam Hadaway, Don Hakala, Sally Hamilton, Gerald Hamsmith, William Hardin, John Harris, Paul Hastings, Bob Haugen, Steve Hawke, Del Hawley, Robert Hehre, George Hettenhouse, Hans Heymann, Kendall Hill, Roger Hill, Tom Hindelang, Linda Hittle, Ralph Hocking, J. Ronald Hoffmeister, Jim Horrigan, John Houston, John Howe, Keith Howe, Steve Isberg, Jim Jackson, Kose John, Craig Johnson, Keith Johnson, Ramon Johnson, Ray Jones, Manuel Jose, Gus Kalogeras, Mike Keenan, Bill Kennedy, Joe Kiernan, Rick Kish, Linda Klein, Don Knight, Dorothy Koehl, Jaroslaw Komarynsky, Duncan Kretovich, Harold Krogh, Charles Kroncke, Joan Lamm, P. Lange, Howard Lanser, Martin Laurence, Ed Lawrence, Wayne Lee, Jim LePage, Jules Levine, John Lewis, Chuck Linke, Bill Lloyd, Susan Long, Judy Maese, Bob Magee, Ileen Malitz, Phil Malone, Terry Maness, Chris Manning, Terry Martell, D. J.

Masson, John Mathys, John McAlhany, Andy McCollough, Bill McDaniel, Robin McLaughlin, Tom McCue, Jamshid Mehran, Ilhan Meric, Larry Merville, Rick Meyer, Jim Millar, Ed Miller, John Mitchell, Carol Moerdyk, Bob Moore, Barry Morris, Gene Morris, Fred Morrissey, Chris Muscarella, David Nachman, Tim Nantell, Don Nast, Bill Nelson, Bob Nelson, Bob Niendorf, Tom O'Brien, Dennis O'Connor, John O'Donnell, Jim Olsen, Robert Olsen, Coleen Pantalone, Jim Pappas, Stephen Parrish, Glenn Petry, Jim Pettijohn, Rich Pettit, Dick Pettway, Hugo Phillips, John Pinkerton, Gerald Pogue, R. Potter, Franklin Potts, R. Powell, Chris Prestopino, Jerry Prock, Howard Puckett, Herbert Quigley, George Racette, Bob Radcliffe, Bill Rentz, Ken Riener, Charles Rini, John Ritchie, Pietra Rivoli, Antonio Rodriguez, E. M. Roussakis, Dexter Rowell, Jim Sachlis, Abdul Sadik, Thomas Scampini, Kevin Scanlon, Frederick Schadler, Mary Jane Scheuer, Carl Schweser, John Settle, Alan Severn, Sol Shalit, Frederic Shipley, Dilip Shome, Ron Shrieves, Neil Sicherman, J. B. Silvers, Clay Singleton, Joe Sinkey, Stacy Sirmans, Jaye Smith, Steve Smith, Don Sorenson, David Speairs, Ken Stanly, Ed Stendardi, Alan Stephens, Don Stevens, Jerry Stevens, Glen Strasburg, Philip Swensen, Ernie Swift, Paul Swink, Gary Tallman, Dennis Tanner, Russ Taussig, Richard Teweles, Ted Teweles, Andrew Thompson, George Trivoli, George Tsetsekos, Mel Tysseland, David Upton, Howard Van Auken, Pretorious Van den Dool, Pieter Vanderburg, Paul Vanderheiden, Jim Verbrugge, Patrick Vincent, Steve Vinson, Susan Visscher, John Wachowicz, Mike Walker, Sam Weaver, Kuo Chiang Wei, Bill Welch, Fred Weston, Norm Williams, Tony Wingler, Ed Wolfe, Larry Wolken, Don Woods, Thomas Wright, Michael Yonan, Zhong-guo Zhou, Dennis Zocco, and Kent Zumwalt.

Special thanks are due to Fred Weston, Myron Gordon, Merton Miller, and Franco Modigliani, who have done much to help develop the field of financial management and who provided us with instruction and inspiration; to Roy Crum, who co-authored the multinational finance chapter; to Larry Wolken, who offered his hard work and advice for the development of the Lecture Presentation Software; to Dana Aberwald Clark, Susan Ball, and Chris Buzzard, who helped us develop the spreadsheet models; to Don Barksdale and Dana Aberwald Clark, who helped with the ancillaries; to Susan Whitman, who provided both word processing and editorial support, and to Joel Houston and Phillip Daves, whose work with us on other books is reflected in this text.

Both our colleagues and our students at the Universities of Florida and Tennessee gave us many useful suggestions, and the Harcourt and Elm Street Publishing Services staffs—especially Amy Holmes, Sue Nodine, Lauren Feldman, and Mike Reynolds—helped greatly with all phases of text development, production, and marketing.

Errors in the Text

At this point, authors generally say something like this: "We appreciate all the help we received from the people listed above, but any remaining errors are, of course, our own responsibility." And in many books, there are plenty of remaining errors. Having experienced difficulties with errors ourselves, both as students and as instructors, we resolved to avoid this problem in *Financial Management*. As a result of our error detection procedures, we are convinced that the book is relatively free of mistakes.

Partly because of our confidence that few such errors remain, but primarily because we want to detect any errors that may have slipped by so we can correct them in subsequent printings, we decided to offer a reward of \$10 per error to the first person who reports it to us. For purposes of this reward, errors are defined as misspelled

words, nonrounding numerical errors, incorrect statements, and any other error that inhibits comprehension. Typesetting problems such as irregular spacing and differences in opinion regarding grammatical or punctuation conventions do not qualify for this reward. Also, given the ever-changing nature of the World Wide Web, changes in web addresses do not qualify as errors. Finally, any qualifying error that has follow-through effects is counted as two errors only. Please report any errors to Michael C. Ehrhardt at the e-mail address given below.

Conclusion

Finance is, in a real sense, the cornerstone of the free enterprise system. Good financial management is therefore vitally important to the economic health of business firms, hence to the nation and the world. Because of its importance, financial management should be thoroughly understood. However, this is easier said than done—the field is relatively complex, and it is undergoing constant change in response to shifts in economic conditions. All of this makes financial management stimulating and exciting, but also challenging and sometimes perplexing. We sincerely hope that the Tenth Edition of *Financial Management* will help you understand the financial problems faced by businesses today, as well as the best ways to solve those problems.

Eugene F. Brigham

College of Business Administration University of Florida Gainesville, Florida 32611-7167 Brighaef@dale.cba.ufl.edu

Michael C. Ehrhardt University of Tennessee Ehrhardt@utk.edu

June 2001

Brief Contents

	Preface vii			
Part One	Introduction to Financial Management 1			
1	An Overview of Financial Management 3			
2	Financial Statements, Cash Flow, and Taxes 30			
3	Analysis of Financial Statements 74			
4 5	Financial Planning and Forecasting Financial Statements 113 The Financial Environment: Markets, Institutions, and Interest Rates 153			
3	The Philancial Environment. Warkets, Histitutions, and Interest Rates			
Part Two	Fundamental Concepts in Financial Management 197			
6	Risk and Return: The Basics 199			
7	Risk and Return: Portfolio Theory and Asset Pricing Models 247			
8	Time Value of Money 285			
Part Three	Securities and Their Valuation 337			
9	Bonds and Their Valuation 339			
10	Stocks and Their Valuation 379			
Part Four	Corporate Valuation 417			
11	The Cost of Capital 419			
12	Putting the Pieces Together: Corporate Valuation and Value-Based Management 461			
Part Five	Strategic Investment Decisions 499			
13	The Basics of Capital Budgeting: Evaluating Cash Flows 501			
14	Cash Flow Estimation and Risk Analysis 546			
15	Option Pricing with Applications to Real Options 583			
Part Six	Strategic Financing Decisions 617			
16	Capital Structure Decisions: The Basics 619			
17	Capital Structure Decisions: Extensions 662			
18	Distributions to Shareholders: Dividends and Repurchases 698			

Part Seven	Tactical Financing Decisions 735
19	Initial Public Offerings, Investment Banking, and Financial Restructuring 737
20	Lease Financing 784
21	Hybrid Financing: Preferred Stock, Warrants, and Convertibles 809
	,,,,
Part Eight	Working Capital Management 835
22	Current Asset Management 837
23	Short-Term Financing 883
Part Nine	Special Topics 913
24	Derivatives and Risk Management 915
25	Bankruptcy, Reorganization, and Liquidation 941
26	Mergers, LBOs, Divestitures, and Holding Companies 969
27	Multinational Financial Management 1015
Appendixes	
Α	Solutions to Self-Test Problems A-1
В	Answers to End-of-Chapter Problems A-31
С	Selected Equations and Data A-38
D	Mathematical Table A-47
	Index I-1
Web/CD Chapters	(http://www.harcourtcollege.com/finance/theory10e/)
•	
28	Working Capital Management: Extensions
29	Pension Plan Management
30	Financial Management in Not-for-Profit Businesses
Web/CD Extensions	(http://www.harcourtcollege.com/finance/theory10e/)
6	Continuous Probability Distributions
8	The Tabular Approach and Continuous Compounding and Discounting
13	The Marginal Cost of Capital and the Optimal Capital Budget
14	Replacement Project Analysis
15	Illustration of Valuation for Various Real Options
16	Degree of Leverage
20	Percentage Cost Analysis, Feedback Effect on Capital Budgeting, and
	Leveraged Leases
21	Calling Convertible Issues
23	Secured Short-Term Financing
24	Risk Management with Insurance and Bond Portfolio Immunization
25	Case Histories and Multiple Discriminant Analysis

Contents

Preface vii

Part One	Introduction to Financial Management	1
1	An Overview of Financial Management 3	
	Finance and Your Career 4 How Are Companies Organized? 6 Finance in the Organizational Structure of the Firm 9 The Goals of the Corporation 10 Financial Management in the New Millennium 14 Box: Coke Rides the Global Economy Wave 15 Business Ethics and Social Responsibility 16 Agency Relationships 19 Box: Are CEOs Overpaid? 21 Organization of the Book 24 e-Resources 25 Summary 26	
2	Financial Statements, Cash Flow, and Taxes A Brief History of Accounting and Financial Statements 31 Financial Statements and Reports 32	30
	The Balance Sheet 33 The Income Statement 36	
	Statement of Retained Earnings 38 Net Cash Flow 38	
	Box: Financial Analysis on the Internet 39	
	Statement of Cash Flows 40 Modifying Accounting Data for Managerial Decisions 43 MVA and EVA 48	
	The Federal Income Tax System 51 Box: Tax Havens 60 Depreciation 60	
	Summary 61	
3	Analysis of Financial Statements 74 Ratio Analysis 75 Liquidity Ratios 75 Asset Management Ratios 77 Debt Management Ratios 80	