Managerial Finance

Eighth Edition

J. Fred Weston Thomas E. Copeland

Managerial Finance

Eighth Edition

J. Fred Weston

Graduate School of Management University of California, Los Angeles

Thomas E. Copeland

Graduate School of Management University of California, Los Angeles Acquisitions Editor: Elizabeth Widdicombe Developmental Editor: Penny Gaffney

Project Editor: Cate Rzasa Managing Editor: Jane Perkins Design Director: Alan Wendt Design Supervisor: Jeanne Calabrese Production Manager: Mary Jarvis

Copy Editor: Lorraine Wolf

Compositor: York Graphic Services

Text Type: Palatino

Library of Congress Cataloging-in-Publication Data

Weston, J. Fred (John Fred), 1916– Managerial finance.

Includes bibliographies and index.

1. Corporations—Finance. I. Copeland, Thomas E., 1946— . II. Title. HG4026.W45 1986 658.1′5 85-12974 ISBN 0-03-064041-5

Printed in the United States of America 678-039-987654321

Copyright 1986 CBS COLLEGE PUBLISHING Copyright 1981 The Dryden Press Copyright 1978, 1977, 1972, 1969, 1966, 1962 Holt, Rinehart and Winston All rights reserved

Address orders: 383 Madison Avenue New York, NY 10017

Address editorial correspondence: One Salt Creek Lane Hinsdale, IL 60521

CBS COLLEGE PUBLISHING The Dryden Press Holt, Rinehart and Winston Saunders College Publishing

About the Authors

J. Fred Weston earned his A.B. in Political Science, his MBA in Business Economics, and his Ph.D. in Finance, all from the University of Chicago. Dr. Weston began his teaching career at the University of Chicago and in 1949 joined the staff of the University of California, Los Angeles, where he has been professor of managerial economics and finance in the Graduate School of Management since 1955 and has served as Chairman of Finance and Chairman of Business Economics. In 1979, Professor Weston was selected one of the five outstanding teachers on the UCLA campus. He is currently the Cordner Professor of Money and Financial Markets.

Dr. Weston was Associate Editor of *The Journal of Finance* from 1948 to 1955, and a member of the journal's editorial board. He has served as President of the American Finance Association, President of the Western Economic Association, and President of the Financial Management Association. He was also a member of the American Economic Association Census Advisory Committee.

Dr. Weston has published extensively in the financial literature. In addition to Managerial Finance, he is the author of several other books, including The Role of Mergers in the Growth of Large Firms, Public Policy toward Mergers (with Sam Peltzman), and Financial Theory and Corporate Policy (with Thomas E. Copeland).

Dr. Weston has served extensively as a consultant to business firms on financial and economic policies.

Thomas E. Copeland received his B.A. in Economics from Johns Hopkins University, his MBA in Finance from the Wharton School, and his Ph.D. from the University of Pennsylvania. Since that time he has been a member of the faculty at UCLA's Graduate School of Management where he has served as Chairman of the Finance Curriculum Area. He has twice received an award for best teacher in the MBA program, is active in executive education, and has directed UCLA's program for the Young President's Organization.

Also with J. Fred Weston, Dr. Copeland has authored Financial Theory and Corporate Policy, the most widely used advanced level corporation finance text. His academic publications include articles about stock splits, theory of market trading activity, receivables policy, leasing, bid—ask spreads, nonprofit organizations, and portfolio performance measurement. His current research focuses on the value of listing on the NYSE, empirical evidence on block and new issue liquidity premia, spinoffs, and issues in experimental economics. Dr. Copeland is a member of the editorial board of The Midland Corporate Financial Journal and the Financial Review.

Dr. Copeland is a member of the board of directors of Kalama Chemical, Seattle, Washington, and is experienced in the valuation of privately held corporations.

The Dryden Press Series in Finance

Brigham

Financial Management: Theory and Practice,

Fourth Edition

Brigham

Fundamentals of Financial Management,

Fourth Edition

Brigham and Gapenski

Intermediate Financial Management

Brigham and Johnson

Issues in Managerial Finance,

Second Edition

Campsey and Brigham

Introduction to Financial Management

Clayton and Spivey

The Time Value of Money

Cretien, Ball, Brigham

Financial Management with Lotus 1-2-3®

Crum and Brigham

Cases in Managerial Finance,

Sixth Edition

Fama and Miller

The Theory of Finance

Gitman

Personal Finance, Third Edition

Greer and Farrell

Contemporary Real Estate: Theory and Practice

Greer and Farrell

Investment Analysis for Real Estate Decisions

Harrington

Case Studies in Financial Decision Making

Johnson and Johnson

Commercial Bank Management

Kidwell and Peterson

Financial Institutions, Markets, and Money,

Second Edition

Lorie and Brealey

Modern Developments in Investment Management,

Second Edition

Mayo

Investments: An Introduction

Mayo

Finance: An Introduction,

Second Edition

Mvers

Modern Developments in Financial Management

Pettijohn **PROFIT**

Reilly

Investment Analysis and Portfolio Management,

Second Edition

Reilly

Investments, Second Edition

Tallman and Neal

Financial Analysis and Planning Package

Weston and Brigham

Essentials of Managerial Finance,

Seventh Edition

Weston and Copeland Managerial Finance,

Eighth Edition

Preface

In the eighth edition of *Managerial Finance*, we have tried to rethink the material in a fundamental way to reflect the important developments that continue to take place in the field of finance. In reworking the materials, we have sought to achieve a smoother, more cohesive and integrated treatment of managerial finance. Topic coverage is more complete, and the modern finance literature has been fully utilized to provide guidance to practicing financial managers. Our aim is to present the state of the art of received theory as a guide to making practical financial decisions.

The central unifying theme in the eighth edition is the *valuation orientation*. Valuation is the basis for decisions in all major areas of finance: time value of money, capital budgeting, capital structure, cost of capital, dividend policy, financing decisions, mergers, and financial reorganizations.

Impacts of New Developments

Managerial Finance continues to reflect important new developments in the financial environment. The changing value of the U.S. dollar, for example, dramatizes the increased importance of international finance. The relative value of the dollar has created serious problems for some industries and new challenges and opportunities for others. In making the necessary adjustments to economic changes in both domestic and international markets, finance plays a significant role along with the other disciplines important in managing organizations.

New financial instruments and new financial institutions also continuously change the environment in which business firms must operate. Academic researchers have made significant advances, especially in the areas of capital budgeting, asset pricing, cost of capital, and applications of option pricing theory. At the same time, business firms are making increased use of financial theory, and feedback from the world of financial practitioners is affecting financial theory. These developments have guided the revisions made in the eighth edition of *Managerial Finance*.

Changes in the Eighth Edition

Although there are many changes in the eighth edition, this edition continues the basic philosophy of previous editions: to provide users with coverage of all important areas of financial management while providing flexibility in the use of materials. We have continued to reflect important new advances in the applications of valuation analysis, asset pricing models, option pricing models, and the state-preference framework.

Specific changes in the eighth edition of *Managerial Finance* include the following:

- End-of-chapter problems have been updated and revised where appropriate. We have also added new problems to round out the coverage of concepts and to provide appropriate emphasis on areas of central importance. Interest rate levels used in the problems seek to strike a middle range between the extreme highs of the early summer of 1982 and the lows reached in early 1983 and mid-1985.
- Time value of money and capital budgeting have been introduced early (Chapters 5 and
 so they can be used as tools of analysis in all subsequent decision areas.

viii Preface

3. A new chapter (Chapter 7) has been added to describe how the market determines discount rates.

- 4. The materials on financial forecasting (Chapter 10) have been revised to introduce some statistical concepts used in subsequent topics, particularly decision making under uncertainty and its applications.
- 5. Decision models for credit management and policy (Chapter 14) reflect the new capital budgeting approach taken in recent literature.
- The treatment of decision making under uncertainty and its applications (Chapters 16 and 17) has been streamlined and clarified.
- 7. Option pricing (Chapter 18) begins with the simplified binomial option pricing model, which is then generalized to the Black-Scholes model.
- 8. The literature on market efficiency has been summarized (Chapter 19) because the concepts are basic to correct thinking about financial decision making.
- 9. The theory and measurement of the cost of capital discussions (Chapter 21) have been reorganized and clarified.
- Dividend policy (Chapter 22) has been rewritten to reflect the theoretical literature as well as practical applications of dividend policy, including consideration of clientele effects.
- 11. Valuation measurement (Chapter 23) has been reworked and clarified.
- The analysis of refunding decisions (Appendix A to Chapter 26) has been reformulated and streamlined.
- 13. The discussion of warrants and convertibles (Chapter 28) has been rewritten to integrate the material with the recent literature, which reflects the application of option
 pricing models.
- 14. Pension fund management (Chapter 29) has been added to reflect the increasing responsibility of financial managers in this area and to illustrate the impact of ERISA on the corporate debt implications of pension liabilities.
- 15. Merger analysis (Chapter 30) has been refocused to a fundamental valuation approach and extended to incorporate broader issues of corporate restructuring and control.
- 16. The reorganization and bankruptcy materials (Chapter 31) have been rewritten to integrate more fully the impact of the Bankruptcy Reform Act of 1978.

We hope that as a result of these substantial revisions, the reader will have a gratifying intellectual experience with the new *Managerial Finance*. The increased rigor of the eighth edition will pay off in increased insights and ease of moving from concept to concept as well facilitating practical applications in decision making.

Flexibility in the Use of the Materials

Much of the book's specific content is the result of our classroom teaching experience over a number of years, including executive development programs. This experience, in addition to our consulting with business firms on financial problems and policies, has helped us to identify the most significant responsibilities of financial managers, the most fundamental problems facing firms, and the most feasible approaches to practical decision making. Some topics are conceptually difficult, but so are the issues faced by financial managers. Business managers must be prepared to handle complex problems, and finding solutions to these problems necessarily involves the use of advanced tools and techniques.

We have not avoided the many unresolved areas of business financial theory and practice. Although we could have simplified the text in many places by side-stepping the difficult issues, we preferred to provide a basic framework based on the "received doctrine" and then go on to present materials (sometimes in chapter appendixes) on a number of important but

Preface ix

controversial issues. We hope that our presentation, along with the additional references provided at the end of each chapter, will stimulate the reader to further inquiry.

We acknowledge that the level and difficulty of the material are uneven. Certain sections are simply descriptions of the institutional features of the financial environment and, as such, can be comprehended easily and rapidly. Other parts—notably the materials on capital budgeting, uncertainty, option pricing, and the cost of capital—are difficult. We hope that by alternating easy and tough material, we will provide a refreshing change of pace for the reader.

Managerial Finance has traditionally been a highly flexible text, and this flexibility has been increased in the eighth edition. This book can be used in a one-quarter or one-semester introductory course. However, when so used, it will not be possible to cover all of the chapters. Some instructors concentrate on the basic theory chapters for a one-quarter or one-semester course, which would include Chapters 1, 5–7, 16–18, and 20–23, representing 11 of the 32 chapters. For a one-semester course of 15 to 18 weeks, one or more additional major parts of the book can be added. Other instructors simply take the chapters in sequence, covering Chapters 1–19 or Chapters 1–23 as time permits. Still others cover the entire book in a sequence of two quarters or two semesters. We have also found that business executives can work through the book on their own with the assistance of the book's *Study Guide* described below.

Several reviewers suggested that it might be desirable to reduce the total length of the book. Although the idea was appealing, we did not follow the suggestion for several reasons. We want the book to cover the entire field of business finance and to deal with all of the financial management functions. Eliminating institutional material and concentrating only on theory and technique would give the student an unrealistic, sterile view of finance. Some of the more advanced theories and techniques could have been eliminated because they are difficult, but they are essential for sound decision making. These considerations, plus the flexibility in the use of materials, which makes it unnecessary to cover the entire book in one course, caused us to refrain from eliminating these sections. Furthermore, the book has a tradition of functioning as a text or reference work for use in subsequent courses and for the practicing financial executive as well.

Ancillary Materials

Several items are available to supplement *Managerial Finance*. For the professor, there is a comprehensive *Instructor's Manual*, which contains alternative subject sequences and teaching methods, course outlines, answers to all text questions, solutions to all text problems, and an extensive array of test questions and problems. Also available to the instructor is a comprehensive set of *Transparency Masters*, which feature solutions to selected end-of-chapter problems. As a supplement to problems in the text, an additional set of *Supplemental Problems* and solutions is available to adopters. These were developed with the assistance of Roger Bey, Keith Johnson, and Ramon Johnson, among others.

For the student, the *Study Guide* highlights key points in the text and presents a comprehensive set of problems similar to those at the end of each chapter. Each problem is solved in detail, so a student who has difficulty working the end-of-chapter problems can be aided by use of the *Study Guide*.

A casebook and a book of readings can also be used to supplement *Managerial Finance*. Cases in *Managerial Finance*, sixth edition, by Roy L. Crum and Eugene F. Brigham and *Issues in Managerial Finance*, second edition, by Eugene F. Brigham and Ramon E. Johnson, are available.

Acknowledgments

In its several revisions, this book has been worked on and critically reviewed by numerous individuals, and we have received many detailed comments and suggestions from instructors and students using the book in our own schools and elsewhere. All this help has improved the quality of the book, and we are deeply indebted to the following individuals, and others, for their help: M. Adler, E. Altman, J. Andrews, R. Aubey, P. Bacon, W. Beranek, V. Brewer, W. Brueggeman, R. Carleson, S. Choudhur, P. Cooley, C. Cox, D. Fischer, G. Granger, R. Gray, J. Griggs, R. Haugen, S. Hawk, R. Hehre, J. Henry, A. Herrmann, G. Hettenhouse, R. Himes, C. C. Hsia, C. Johnson, R. Jones, D. Kaplan, M. Kaufman, D. Knight, H. Krogh, R. LeClair, W. Lee, D. Longmore, J. Longstreet, H. Magee, P. Malone, R. Masulis, R. Moore, T. Morton, T. Nantell, R. Nelson, R. Norgaard, J. Pappas, R. Pettit, R. Pettway, J. Pinkerton, G. Pogue, W. Regan, F. Reilly, R. Rentz, R. Richards, C. Rini, R. Roenfeldt, W. Sharpe, K. Smith, P. Smith, R. Smith, D. Sorenson, B. Trueman, M. Tysseland, P. Vanderheiden, D. Woods, J. Yeakel, and D. Ziegenhein.

For providing us with detailed reviews of the manuscript for this edition, we owe special thanks to Michael L. Baker, Severin C. Carlson, Dosoung Choi, Peter K. Ewald, Keith Wm. Fairchild, Roger P. Hill, Herb Johnson, Morris Lamberson, Glenn H. Petry, John G. Preston, John M. Wachowicz, Jr., Dennis Zocco, and, particularly, Mary Jean Scheuer.

The Graduate School of Management at UCLA and our colleagues provided us with intellectual support in bringing this edition to completion. We owe special thanks to Susan Hoag for her good judgment and assistance in all phases of writing the book and to Marilyn McElroy for her dedication and creative abilities in putting the manuscript through many revisions and on to the computer. For assistance in developing and refining problems and solutions, we thank Sally Hamilton, Mark Ewing, and Jeffrey Shepard. For help in the typing and preparation process, we thank Karen Withem and Solomon Jones.

We are also indebted to The Dryden Press staff—principally, Liz Widdicombe, Cate Rzasa, Penny Gaffney, Alan Wendt, Jeanne Calabrese, Judy Sarwark, Debby Ruck, and Bill Schoof—for their creative efforts in seeing the manuscript through development and production to the bound book.

The field of finance will continue to experience significant changes. It is stimulating to participate in these exciting developments, and we hope that *Managerial Finance* will contribute to continued advances in the theory and practice of finance. We welcome comments and suggestions of any kind from our readers.

J. Fred Weston Thomas E. Copeland Graduate School of Management UCLA Los Angeles, California 90024

September 1985

Contents

Part One Fundamental Concepts of Managerial Finance	1
Chapter 1 The Finance Function	3
The Finance Function 3 Finance in the Organizational Structure of the Firm 4 The Nature of the Firm and Its Goals 6 Value Maximization as a Goal 9 The Changing Role of Financial Management 10 Organization of This Book 12	
Chapter 2 Financial Statements	15
Sample Income Statement 15 Sample Balance Sheet 18 Sources and Uses of Funds 21 Reporting Requirements 25	
Chapter 3 The Financial Environment	31
Financial Markets 31 The Role of the Financial Manager 32 Types of Financial Instruments 34 The Federal Reserve System 34 Fiscal Policy 34 Securities Markets 35 The National Market System 37 Stock Market Reporting 39 Margin Trading and Short Selling 40 Financial Instruments 42	
Chapter 4 The Tax Environment	45
Introduction 45 Corporate Income Tax 45 Personal Income Tax 51 Choices among Alternative Forms of Business Organization 54 Special Provisions for Small Businesses 58	
Appendix A to Chapter 4 Depreciation Methods	63
Straight Line 63 Sum-of-Years'-Digits 64 Units of Production 64 Declining Balance Methods 65 Effect of Depreciation on Taxes Paid 66 Changing the Depreciable Life of an Asset 66	
Part Two The Time Dimension in Financial Decisions	69
Chapter 5 The Time Value of Money	71
Future Value 71 Present Value 73 Future Value versus Present Value 75 Future	

Value of an Annuity 76 Present Value of an Annuity 78 Annual Payments for

xii Contents

Accumulation of a Future Sum 79 Annual Annuity Payments 80 Determining Interest Rates 80 Present Value of an Unequal Series of Receipts 81 Noninteger Values of Interest Rates 82 Semiannual and Other Compounding Periods 82 The Annual Percentage Rate (APR) 84 Appropriate Interest Rates 87

Appendix A to Chapter 5 Continuous Compounding and Discounting 92

Continuous Compounding 92 Continuous Discounting 94 Continuous Compounding and Discounting for Annuities 94 The Relationship between Discrete and Continuous Interest Rates 97

Chapter 6 Capital Budgeting Techniques

99

Significance of Capital Budgeting 99 An Overview of Capital Budgeting 100 Ranking Investment Proposals 106 Capital Budgeting: An Example 120 Accelerated Depreciation 124 Projects with Different Lives 125 Projects with Different Scale 129

Chapter 7 How the Market Determines Discount Rates

139

Productivity, Inflation, Liquidity, and Risk 139 Theoretical Explanations for the Term Structure of Interest Rates 146 Risk and the Market Discount Rate 155

Appendix A to Chapter 7 Interest Rate Futures and Riding the Yield Curve

166

Forward Rates and Futures Rates 166 The Establishment of an Interest Rate Futures Market 166 The Relationship between the Forward and Futures Rates 167 Riding the Yield Curve 169 Empirical Studies of Yields on Futures Contracts and the Behavior of Forward Rates 171 Conclusions on Opportunities in the Interest Rate Futures Markets 171

Part Three Financial Analysis, Planning, and Control

173

Chapter 8 Financial Ratio Analysis

175

Basic Financial Statements 175 Basic Types of Financial Ratios 178 Financial Ratio Standards 179 Use of Financial Ratios 179 Sources of Comparative Ratios 193 Some Limitations of Ratio Analysis 195

Appendix A to Chapter 8 Effects of Changing Price Levels

202

Inflation and the Measurement of Profitability 202 Inflation and Inventory Valuation Methods 203 Proposals for Accounting Policies to Adjust for Inflation 204

Appendix B to Chapter 8 Financial Ratios in Discriminant Analysis	206
Classification of Observations by Discriminant Analysis 206	
Chapter 9 Financial Planning and Control	211
Financial Planning and Control Processes 211 Breakeven Analysis 213 Operating Leverage 218 Cash Breakeven Analysis 221 Cash Budgets 223 Control in Multidivision Companies 228 Overall Planning Models 231	
Chapter 10 Financial Forecasting	241
Cash Flow Cycle 241 Financing Patterns 244 Percent of Sales Method 244 Linear Regression: One Variable 249	
Appendix A to Chapter 10 The Normal Distribution	265
Illustrating the Use of Probability Concepts 267 Cumulative Probability 270 Other Distributions 272	
Part Four Working Capital Management	275
Chapter 11 Working Capital Policy	277
Importance of Working Capital Management 277 Risk-Return Tradeoff for Current Asset Investments 278 Financing Current Assets 280 The Costs and Risks of Alternative Debt Maturities 283	3
Chapter 12 Cash and Marketable Securities Management	289
Cash and Marketable Securities Management 289 Managing Disbursements 296 Marketable Securities 299 Cash Management Models 303	
Appendix A to Chapter 12 Cash Management Models	310
Baumol Model 310 Miller-Orr Model 314 Beranek Model 316 A Comparison of the Models 317	
Chapter 13 Inventory Management	321
Inventory 321 Generality of Inventory Analysis 322 The EOQ Model 325 Extending the EOQ Model 329	

xiv Contents

Chapter 15 Short-Term Financing Trade Credit 359 Short-Term Financing by Commercial Banks 362 Commercial Paper 366 Bankers' Acceptances 368 Secured Short-Term Financing 369 Accounts Receivable Financing 369 Inventory Financing 373 Part Five Decision Making under Uncertainty 380 Chapter 16 Portfolio Theory: Decision Making under Uncertainty Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 465	Chapter 14 Credit Management and Policy	341
Chapter 15 Short-Term Financing Trade Credit 359 Short-Term Financing by Commercial Banks 362 Commercial Paper 366 Bankers' Acceptances 368 Secured Short-Term Financing 369 Accounts Receivable Financing 369 Inventory Financing 373 Part Five Decision Making under Uncertainty 38: Chapter 16 Portfolio Theory: Decision Making under Uncertainty Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	0 0	
Chapter 15 Short-Term Financing Trade Credit 359 Short-Term Financing by Commercial Banks 362 Commercial Paper 366 Bankers' Acceptances 368 Secured Short-Term Financing 369 Accounts Receivable Financing 369 Inventory Financing 373 Part Five Decision Making under Uncertainty 38: Chapter 16 Portfolio Theory: Decision Making under Uncertainty Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Appendix A to Chapter 14 The Payments Pattern Approach	353
Trade Credit 359 Short-Term Financing by Commercial Banks 362 Commercial Paper 366 Bankers' Acceptances 368 Secured Short-Term Financing 369 Accounts Receivable Financing 369 Inventory Financing 373 Part Five Decision Making under Uncertainty 389 Chapter 16 Portfolio Theory: Decision Making under Uncertainty 380 Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications 420 Introduction 427 The CAPM and the Security Market Line 428 Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects 476 Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Corporate Practice 353 Payments Pattern Approach 355	
Paper 366 Bankers' Acceptances 368 Secured Short-Term Financing 369 Accounts Receivable Financing 369 Inventory Financing 373 Part Five Decision Making under Uncertainty 389 Chapter 16 Portfolio Theory: Decision Making under Uncertainty 389 Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications 420 Introduction 427 The CAPM and the Security Market Line 428 Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT 463 Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects 473 Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Chapter 15 Short-Term Financing	359
Chapter 16 Portfolio Theory: Decision Making under Uncertainty Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications Introduction 427 The CAPM and the Security Market Line 428 Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Paper 366 Bankers' Acceptances 368 Secured Short-Term Financing 369 Account	:S
Introduction 387 Risk and Return: The Theory of Choice 387 Risk and Return: Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications Introduction 427 The CAPM and the Security Market Line 428 Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Part Five Decision Making under Uncertainty	385
Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing Inefficient Portfolios 413 Chapter 17 Risk and Return: Theory, Evidence, and Applications Introduction 427 The CAPM and the Security Market Line 428 Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Chapter 16 Portfolio Theory: Decision Making under Uncertainty	387
Introduction 427 The CAPM and the Security Market Line 428 Applications of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 **Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 **Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects 47: **Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Objects of Choice 392 Market Equilibrium: The Capital Market Line 407 Pricing	
of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450 The Arbitrage Pricing Model (APM) 452 **Appendix A to Chapter 17 Derivations of the CAPM and the APT Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 **Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Chapter 17 Risk and Return: Theory, Evidence, and Applications	427
Derivation of the Capital Asset Pricing Model 463 Derivation of the Arbitrage Pricing Model 465 **Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects** Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer* **Tensor	of the CAPM 432 Empirical Evidence on the Capital Asset Pricing Model 450	
Pricing Model 465 Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer	Appendix A to Chapter 17 Derivations of the CAPM and the APT	463
Monte Carlo Simulation Analysis 471 Decision Trees 472 Computer		
	Appendix B to Chapter 17 Sensitivity Analysis of Risky Projects	471

626

	479
Introduction to Options 479 Four Building Blocks of Financial Contracts 480 Put-Call Parity 483 Valuing a Call Option 485 Applications of the OPM to Corpor Finance 500 Empirical Evidence on the OPM 507 The Relationship between the OPM and the CAPM 507	ate
Appendix A to Chapter 18 The Abandonment Decision	514
Abandonment Analysis Using Decision Trees 514 Further Developments in Abandonment Decision Rules 520	
Chapter 19 Market Efficiency and Financial Decisions	523
The Theory of Market Efficiency 523 Evidence on Weak-Form Efficiency 527 Evidence on Semi-Strong-Form Efficiency 529 Evidence on Strong-Form Efficiency 539 Efficient Markets with Transactions Costs and Costly Information 540	
Part Six Cost of Capital and Valuation	551
Part Six Cost of Capital and Valuation Chapter 20 Financial Structure and the Use of Leverage	551 553
·	
Chapter 20 Financial Structure and the Use of Leverage Financial Leverage 553 Financial Leverage and Risk 560 Financial Leverage with Additional Investment 564 Crossover Analysis 566 Factors Influencing Financial	

Appendix A to Chapter 21 The Modigliani-Miller Propositions:

Cost of Capital for Finite Lives 626 The MM Propositions with Depreciable Assets 627 The Weighted Average Cost of Capital as a Cutoff Rate 630

Some Extensions

Appendix B to Chapter 21 The State-Preference Model

635

Alternative Future States-of-the-World 635 The Concept of a Pure Security 636 Use of the SPM to Determine the Optimal Financial Leverage 638 Implications for Leverage Decisions 640

Chapter 22 Dividend Policy

645

Dividend Payments 645 Factors Influencing Dividend Policy 646 General Dividend Patterns in the Economy 649 Theories of Dividend Policy 653 Ingredients for Optimal Dividend Policy 659 Stock Dividends, Stock Splits, and Repurchases 667

Appendix A to Chapter 22 Dividend Policy: Stock Prices and Clientele Effects

680

Dividends and Value 680 Dividend Clientele Effects 683

Chapter 23 Valuation

689

Definitions of Value 689 Bond Valuation 690 Preferred Stock Valuation 694
Common Stock Returns and Valuation 695 Factors Leading to Changes in Market
Prices 697 Valuation under Alternative Growth Patterns 698 Stock Values with Zero
Growth 699 Normal, or Constant, Growth 699 Supernormal Growth 701
Comparing Companies with Different Expected Growth Rates 703 The Free Cash
Flow Approach to Common Stock Valuation 705

Part Seven The Treasurer's Point of View: Policy Decisions

717

Chapter 24 External Financing: Institutions and Behavior

719

Sources of Business Financing 719 Direct Financing 720 Investment Banking 724 Investment Banking Operations 726 IBM's October 1979 Debt Offering 731 Costs of Flotation 732 Flotation Costs on Negotiated versus Multiple-Bidding Underwritings 734 Regulation of Security Trading 736 Recent Changes in SEC Rules 738 Appraisal of Regulation of Security Trading 739 Recent Trends in Business Financing 739 Institutional Developments 741

Chapter 25 Common Stock Financing

751

Apportionment of Income, Control, and Risk 751 Common Stock Financing 753 Evaluation of Common Stock as a Source of Funds 756 Use of Rights in Financing 757 Theoretical Relationships of Rights Offerings 758 Effects on Position of

Contents xvii

Stockholders 762 Advantages of Use of Rights in New Financing 766 Choosing among Alternative Forms of Financing 766

Chapter 26 Debt and Preferred Stock

781

Instruments of Long-Term Debt Financing 781 Secured Bonds 788 Unsecured Bonds 789 Bond Values and Their Fluctuations 794 The Cost of Long-Term Debt 797 Characteristics of Long-Term Debt 797 Decisions on the Use of Long-Term Debt 799 Nature of Preferred Stock 800 Major Provisions of Preferred Stock Issues 801 Evaluation of Preferred Stock 803 Decision Making on the Use of Preferred Stock 805 Rationale for Different Classes of Securities 805 Refunding Debt or Preferred 805

Appendix A to Chapter 26 Refunding Decisions

817

Choosing a Discount Rate for the Bond Refunding Decision 817 Refunding When Interest Rates Have Risen 820

Chapter 27 Lease Financing

825

Types of Leases 825 Accounting for Leases 827 The Financing Decision: Lease versus Borrow 829 The Investment Decision 833 Alternative Computation Procedures in the Leasing Analysis 834 Cost Comparison for Operating Leases 836 Additional Influences on the Leasing versus Owning Decision 837

Chapter 28 Warrants and Convertibles

845

Warrants 845 Convertibles 850 The Duplicating Portfolio Approach to the BOP 855

Chapter 29 Pension Fund Management

873

Pension Plan Overview: Historical Data and Financial Statements 873 Pension Fund Regulations: ERISA, FASB 36, and the IRS 876 Managerial Decisions 880 Changing the Actuarial Assumptions 880 The Mix of Pension Plan Assets 882 Measuring Pension Plan Portfolio Performance 889 Voluntary Termination of Defined Benefit Pension Plans 893 Insurance Company Contracts 894

Part Eight Integrated Topics in Managerial Finance

899

Chapter 30 Mergers and Corporate Control

901

Mergers and Acquisitions 901 Restructuring Business Firms 904 Theories of Asset Redeployment 907 Theories of Restructuring 912 Empirical Studies of Mergers

Appendix A Interest Tables	1009
The Importance of International Finance 975 Impact of Exchange Rate Fluctuations 977 Risk Position of the Firm in Foreign Currency Units 985 Monetar Balance 988 Translation of Financial Statements 990 FASB 8 and FASB 52 994 International Financing 995 An Example of International Financing 998 Working Capital Management in International Enterprise 1001	ry
Chapter 32 International Business Finance	975
Failure 952 Extension and Composition 955 Federal Bankruptcy Law 957 Reorganization 958 Use of Reorganization to Recontract 964 Liquidation Procedures 965 Bankruptcy Prediction 968	
Chapter 31 Reorganization and Bankruptcy	951
Financial Treatment of a Purchase 944 Treatment of Goodwill 947 Financial Treatment of Pooling of Interests 947	
Appendix A to Chapter 30 Financial Accounting for Mergers	943
and Other Aspects of Corporate Control 912 Terms of Mergers 914 Holding Companies 920 Leveraged Buy-Outs 923 Managerial Policies in a Valuation Framework 927	