

# Corporate Finance

---

*Ninth Edition*

**Stephen A. Ross**

Sloan School of Management  
Massachusetts Institute of Technology

**Randolph W. Westerfield**

Marshall School of Business  
University of Southern California

**Jeffrey Jaffe**

Wharton School of Business  
University of Pennsylvania

 **McGraw-Hill**  
**Irwin**

# Brief Contents

## PART I

### Overview

- 1 Introduction to Corporate Finance 1
- 2 Financial Statements and Cash Flow 20
- 3 Financial Statements Analysis and Financial Models 44

## PART II

### Valuation and Capital Budgeting

- 4 Discounted Cash Flow Valuation 87
- 5 Net Present Value and Other Investment Rules 135
- 6 Making Capital Investment Decisions 171
- 7 Risk Analysis, Real Options, and Capital Budgeting 206
- 8 Interest Rates and Bond Valuation 234
- 9 Stock Valuation 268

## PART III

### Risk

- 10 Risk and Return: Lessons from Market History 300
- 11 Return and Risk: The Capital Asset Pricing Model (CAPM) 329
- 12 An Alternative View of Risk and Return: The Arbitrage Pricing Theory 371
- 13 Risk, Cost of Capital, and Capital Budgeting 392

## PART IV

### Capital Structure and Dividend Policy

- 14 Efficient Capital Markets and Behavioral Challenges 428
- 15 Long-Term Financing: An Introduction 467
- 16 Capital Structure: Basic Concepts 488
- 17 Capital Structure: Limits to the Use of Debt 520
- 18 Valuation and Capital Budgeting for the Levered Firm 553
- 19 Dividends and Other Payouts 575

## PART V

### Long-Term Financing

- 20 Issuing Securities to the Public 616
- 21 Leasing 652

## PART VI

### Options, Futures, and Corporate Finance

- 22 Options and Corporate Finance 676
- 23 Options and Corporate Finance: Extensions and Applications 719
- 24 Warrants and Convertibles 744
- 25 Derivatives and Hedging Risk 763

**PART VII****Short-Term Finance**

- 26** Short-Term Finance and Planning 795
- 27** Cash Management 824
- 28** Credit and Inventory Management 846

**PART VIII****Special Topics**

- 29** Mergers, Acquisitions, and Divestitures 875
- 30** Financial Distress 917
- 31** International Corporate Finance 933

*Appendix A: Mathematical Tables* 963

*Appendix B: Solutions to Selected  
End-of-Chapter Problems* 972

*Name Index* 975

*Subject Index* 978

## PART I Overview

### Chapter 1

#### Introduction to Corporate Finance 1

<b>1.1</b>	<b>What Is Corporate Finance?</b>	<b>1</b>
	The Balance Sheet Model of the Firm	1
	The Financial Manager	3
<b>1.2</b>	<b>The Corporate Firm</b>	<b>4</b>
	The Sole Proprietorship	4
	The Partnership	4
	The Corporation	5
	A Corporation by Another Name . . .	7
<b>1.3</b>	<b>The Importance of Cash Flows</b>	<b>7</b>
<b>1.4</b>	<b>The Goal of Financial Management</b>	<b>10</b>
	Possible Goals	11
	The Goal of Financial Management	11
	A More General Goal	12
<b>1.5</b>	<b>The Agency Problem and Control of the Corporation</b>	<b>13</b>
	Agency Relationships	13
	Management Goals	14
	Do Managers Act in the Stockholders' Interests?	14
	Stakeholders	15
<b>1.6</b>	<b>Regulation</b>	<b>16</b>
	The Securities Act of 1933 and the Securities Exchange Act of 1934	16
	Sarbanes-Oxley	17
	Summary and Conclusions	18
	Concept Questions	18
	S&P Problems	19

### Chapter 2

#### Financial Statements and Cash Flow 20

<b>2.1</b>	<b>The Balance Sheet</b>	<b>20</b>
	Liquidity	21
	Debt versus Equity	22
	Value versus Cost	22
<b>2.2</b>	<b>The Income Statement</b>	<b>23</b>
	Generally Accepted Accounting Principles	24
	Noncash Items	25
	Time and Costs	25
<b>2.3</b>	<b>Taxes</b>	<b>26</b>
	Corporate Tax Rates	26
	Average versus Marginal Tax Rates	26

<b>2.4</b>	<b>Net Working Capital</b>	<b>28</b>
<b>2.5</b>	<b>Financial Cash Flow</b>	<b>28</b>
<b>2.6</b>	<b>The Accounting Statement of Cash Flows</b>	<b>32</b>
	Cash Flow from Operating Activities	32
	Cash Flow from Investing Activities	32
	Cash Flow from Financing Activities	33
<b>2.7</b>	<b>Cash Flow Management</b>	<b>34</b>
	Summary and Conclusions	35
	Concept Questions	35
	Questions and Problems	35
	S&P Problems	41
	Mini Case: Cash Flows at Warf Computers, Inc.	41

### Chapter 3

#### Financial Statements Analysis and Financial Models 44

<b>3.1</b>	<b>Financial Statements Analysis</b>	<b>44</b>
	Standardizing Statements	44
	Common-Size Balance Sheets	45
	Common-Size Income Statements	46
<b>3.2</b>	<b>Ratio Analysis</b>	<b>48</b>
	Short-Term Solvency or Liquidity Measures	49
	Long-Term Solvency Measures	51
	Asset Management or Turnover Measures	52
	Profitability Measures	54
	Market Value Measures	55
<b>3.3</b>	<b>The Du Pont Identity</b>	<b>59</b>
	A Closer Look at ROE	59
	Problems with Financial Statement Analysis	61
<b>3.4</b>	<b>Financial Models</b>	<b>62</b>
	A Simple Financial Planning Model	62
	The Percentage of Sales Approach	63
<b>3.5</b>	<b>External Financing and Growth</b>	<b>68</b>
	EFN and Growth	68
	Financial Policy and Growth	71
	A Note about Sustainable Growth Rate Calculations	74
<b>3.6</b>	<b>Some Caveats Regarding Financial Planning Models</b>	<b>75</b>
	Summary and Conclusions	77
	Concept Questions	77
	Questions and Problems	78
	S&P Problems	84
	Mini Case: Ratios and Financial Planning at East Coast Yachts	84

## PART II Valuation and Capital Budgeting

### Chapter 4

#### Discounted Cash Flow Valuation 87

<b>4.1</b>	<b>Valuation: The One-Period Case</b>	<b>87</b>
<b>4.2</b>	<b>The Multiperiod Case</b>	<b>91</b>
	Future Value and Compounding	91
	The Power of Compounding: A Digression	94
	Present Value and Discounting	95
	Finding the Number of Periods	98
	The Algebraic Formula	101
<b>4.3</b>	<b>Compounding Periods</b>	<b>101</b>
	Distinction between Stated Annual Interest Rate and Effective Annual Rate	103
	Compounding over Many Years	104
	Continuous Compounding	104
<b>4.4</b>	<b>Simplifications</b>	<b>106</b>
	Perpetuity	106
	Growing Perpetuity	107
	Annuity	109
	Growing Annuity	115
<b>4.5</b>	<b>Loan Amortization</b>	<b>116</b>
<b>4.6</b>	<b>What Is a Firm Worth?</b>	<b>120</b>
	Summary and Conclusions	122
	Concept Questions	123
	Questions and Problems	123
	S&P Problems	133

<b>Appendix 4A:</b>	<b>Net Present Value: First Principles of Finance</b>	<b>133</b>
---------------------	---	------------

<b>Appendix 4B:</b>	<b>Using Financial Calculators</b>	<b>133</b>
	Mini Case: The MBA Decision	134

### Chapter 5

#### Net Present Value and Other Investment Rules 135

<b>5.1</b>	<b>Why Use Net Present Value?</b>	<b>135</b>
<b>5.2</b>	<b>The Payback Period Method</b>	<b>138</b>
	Defining the Rule	138
	Problems with the Payback Method	139
	Managerial Perspective	140
	Summary of Payback	141
<b>5.3</b>	<b>The Discounted Payback Period Method</b>	<b>141</b>
<b>5.4</b>	<b>The Internal Rate of Return</b>	<b>141</b>
<b>5.5</b>	<b>Problems with the IRR Approach</b>	<b>144</b>

	Definition of Independent and Mutually Exclusive Projects	144
	Two General Problems Affecting Both Independent and Mutually Exclusive Projects	145
	Problems Specific to Mutually Exclusive Projects	149
	Redeeming Qualities of IRR	154
	A Test	154
<b>5.6</b>	<b>The Profitability Index</b>	<b>155</b>
	Calculation of Profitability Index	155
<b>5.7</b>	<b>The Practice of Capital Budgeting</b>	<b>157</b>
	Summary and Conclusions	159
	Concept Questions	160
	Questions and Problems	162
	Mini Case: Bullock Gold Mining	169

### Chapter 6

#### Making Capital Investment Decisions 171

<b>6.1</b>	<b>Incremental Cash Flows: The Key to Capital Budgeting</b>	<b>171</b>
	Cash Flows—Not Accounting Income	171
	Sunk Costs	172
	Opportunity Costs	172
	Side Effects	173
	Allocated Costs	173
<b>6.2</b>	<b>The Baldwin Company: An Example</b>	<b>174</b>
	An Analysis of the Project	176
	Which Set of Books?	179
	A Note about Net Working Capital	179
	A Note about Depreciation	180
	Interest Expense	181
<b>6.3</b>	<b>Inflation and Capital Budgeting</b>	<b>181</b>
	Interest Rates and Inflation	181
	Cash Flow and Inflation	183
	Discounting: Nominal or Real?	184
<b>6.4</b>	<b>Alternative Definitions of Operating Cash Flow</b>	<b>186</b>
	The Top-Down Approach	187
	The Bottom-Up Approach	187
	The Tax Shield Approach	188
	Conclusion	189
<b>6.5</b>	<b>Investments of Unequal Lives: The Equivalent Annual Cost Method</b>	<b>189</b>
	The General Decision to Replace	191
	Summary and Conclusions	193
	Concept Questions	194
	Questions and Problems	195
	Mini Cases: Bethesda Mining Company	203
	Goodweek Tires, Inc.	204

**Chapter 7**

**Risk Analysis, Real Options, and Capital Budgeting 206**

**7.1 Sensitivity Analysis, Scenario Analysis, and Break-Even Analysis 206**  
 Sensitivity Analysis and Scenario Analysis 206  
 Break-Even Analysis 210

**7.2 Monte Carlo Simulation 214**  
 Step 1: Specify the Basic Model 214  
 Step 2: Specify a Distribution for Each Variable in the Model 217  
 Step 3: The Computer Draws One Outcome 217  
 Step 4: Repeat the Procedure 218  
 Step 5: Calculate NPV 218

**7.3 Real Options 218**  
 The Option to Expand 219  
 The Option to Abandon 220  
 Timing Options 222

**7.4 Decision Trees 223**  
 Summary and Conclusions 225  
 Concept Questions 225  
 Questions and Problems 226  
 Mini Case: Bunyan Lumber, LLC 232

**Chapter 8**

**Interest Rates and Bond Valuation 234**

**8.1 Bonds and Bond Valuation 234**  
 Bond Features and Prices 234  
 Bond Values and Yields 235  
 Interest Rate Risk 238  
 Finding the Yield to Maturity: More Trial and Error 240  
 Zero Coupon Bonds 242

**8.2 Government and Corporate Bonds 244**  
 Government Bonds 244  
 Corporate Bonds 245  
 Bond Ratings 247

**8.3 Bond Markets 248**  
 How Bonds Are Bought and Sold 248  
 Bond Price Reporting 249  
 A Note on Bond Price Quotes 252

**8.4 Inflation and Interest Rates 253**  
 Real versus Nominal Rates 253  
 Inflation Risk and Inflation-Linked Bonds 254  
 The Fisher Effect 255

**8.5 Determinants of Bond Yields 257**  
 The Term Structure of Interest Rates 257  
 Bond Yields and the Yield Curve: Putting It All Together 260

Conclusion 261  
 Summary and Conclusions 261  
 Concept Questions 261  
 Questions and Problems 263  
 S&P Problem 266  
 Mini Case: Financing East Coast Yachts's Expansion Plans with a Bond Issue 266

**Chapter 9**

**Stock Valuation 268**

**9.1 The Present Value of Common Stocks 268**  
 Dividends versus Capital Gains 268  
 Valuation of Different Types of Stocks 269

**9.2 Estimates of Parameters in the Dividend Discount Model 273**  
 Where Does  $g$  Come From? 273  
 Where Does  $R$  Come From? 275  
 A Healthy Sense of Skepticism 276  
 A Note on the Link between Dividends and Corporate Cash Flows 277

**9.3 Growth Opportunities 278**  
 NPVGOs of Real-World Companies 280  
 Growth in Earnings and Dividends versus Growth Opportunities 281  
 Does a Higher Retention Ratio Benefit Shareholders? 282  
 Dividends or Earnings: Which to Discount? 284  
 The No-Dividend Firm 284

**9.4 Price–Earnings Ratio 285**

**9.5 The Stock Markets 287**  
 Dealers and Brokers 287  
 Organization of the NYSE 288  
 NASDAQ Operations 290  
 Stock Market Reporting 291  
 Summary and Conclusions 292  
 Concept Questions 293  
 Questions and Problems 293  
 S&P Problems 297  
 Mini Case: Stock Valuation at Ragan Engines 298

**PART III Risk**

**Chapter 10**

**Risk and Return: Lessons from Market History 300**

**10.1 Returns 300**  
 Dollar Returns 300  
 Percentage Returns 302

<b>10.2</b>	<b>Holding Period Returns</b>	<b>304</b>			
<b>10.3</b>	<b>Return Statistics</b>	<b>307</b>			
<b>10.4</b>	<b>Average Stock Returns and Risk-Free Returns</b>	<b>311</b>			
<b>10.5</b>	<b>Risk Statistics</b>	<b>312</b>			
	Variance	313			
	Normal Distribution and Its Implications for Standard Deviation	314			
<b>10.6</b>	<b>More on Average Returns</b>	<b>315</b>			
	Arithmetic versus Geometric Averages	315			
	Calculating Geometric Average Returns	316			
	Arithmetic Average Return or Geometric Average Return?	317			
<b>10.7</b>	<b>The U.S. Equity Risk Premium: Historical and International Perspectives</b>	<b>318</b>			
<b>10.8</b>	<b>2008: A Year of Financial Crisis</b>	<b>321</b>			
	Summary and Conclusions	322			
	Concept Questions	322			
	Questions and Problems	323			
	S&P Problems	326			
<b>Appendix 10A:</b>	<b>The Historical Market Risk Premium: The Very Long Run</b>	<b>326</b>			
	Mini Case: A Job at East Coast Yachts	327			
<b>Chapter 11</b>					
<b>Return and Risk: The Capital Asset Pricing Model (CAPM) 329</b>					
<b>11.1</b>	<b>Individual Securities</b>	<b>329</b>			
<b>11.2</b>	<b>Expected Return, Variance, and Covariance</b>	<b>330</b>			
	Expected Return and Variance	330			
	Covariance and Correlation	332			
<b>11.3</b>	<b>The Return and Risk for Portfolios</b>	<b>335</b>			
	The Expected Return on a Portfolio	335			
	Variance and Standard Deviation of a Portfolio	336			
<b>11.4</b>	<b>The Efficient Set for Two Assets</b>	<b>339</b>			
<b>11.5</b>	<b>The Efficient Set for Many Securities</b>	<b>344</b>			
	Variance and Standard Deviation in a Portfolio of Many Assets	345			
<b>11.6</b>	<b>Diversification</b>	<b>347</b>			
	The Anticipated and Unanticipated Components of News	347			
	Risk: Systematic and Unsystematic	347			
	The Essence of Diversification	348			
<b>11.7</b>	<b>Riskless Borrowing and Lending</b>	<b>350</b>			
	The Optimal Portfolio	352			
<b>11.8</b>	<b>Market Equilibrium</b>	<b>353</b>			
	Definition of the Market Equilibrium Portfolio	353			
	Definition of Risk When Investors Hold the Market Portfolio	354			
	The Formula for Beta	356			
	A Test	357			
<b>11.9</b>	<b>Relationship between Risk and Expected Return (CAPM)</b>	<b>357</b>			
	Expected Return on Market	357			
	Expected Return on Individual Security	358			
	Summary and Conclusions	361			
	Concept Questions	362			
	Questions and Problems	363			
	S&P Problem	369			
<b>Appendix 11A:</b>	<b>Is Beta Dead?</b>	<b>369</b>			
	Mini Case: A Job at East Coast Yachts, Part 2	369			
<b>Chapter 12</b>					
<b>An Alternative View of Risk and Return: The Arbitrage Pricing Theory 371</b>					
<b>12.1</b>	<b>Introduction</b>	<b>371</b>			
<b>12.2</b>	<b>Systematic Risk and Betas</b>	<b>371</b>			
<b>12.3</b>	<b>Portfolios and Factor Models</b>	<b>374</b>			
	Portfolios and Diversification	376			
<b>12.4</b>	<b>Betas, Arbitrage, and Expected Returns</b>	<b>379</b>			
	The Linear Relationship	379			
	The Market Portfolio and the Single Factor	380			
<b>12.5</b>	<b>The Capital Asset Pricing Model and the Arbitrage Pricing Theory</b>	<b>381</b>			
	Differences in Pedagogy	381			
	Differences in Application	381			
<b>12.6</b>	<b>Empirical Approaches to Asset Pricing</b>	<b>383</b>			
	Empirical Models	383			
	Style Portfolios	384			
	Summary and Conclusions	386			
	Concept Questions	386			
	Questions and Problems	387			
	Mini Case: The Fama–French Multifactor Model and Mutual Fund Returns	391			
<b>Chapter 13</b>					
<b>Risk, Cost of Capital, and Capital Budgeting 392</b>					
<b>13.1</b>	<b>The Cost of Equity Capital</b>	<b>392</b>			
<b>13.2</b>	<b>Estimating the Cost of Equity Capital with the CAPM</b>	<b>393</b>			
	The Risk-Free Rate	396			
	Market Risk Premium	396			
<b>13.3</b>	<b>Estimation of Beta</b>	<b>398</b>			
	Real-World Betas	398			
	Stability of Beta	399			
	Using an Industry Beta	400			

**13.4 Beta, Covariance, and Correlation** 401  
 Beta and Covariance 402  
 Beta and Correlation 402

**13.5 Determinants of Beta** 404  
 Cyclicity of Revenues 404  
 Operating Leverage 404  
 Financial Leverage and Beta 404

**13.6 Dividend Discount Model** 406  
 Comparison of DDM and CAPM 406  
 Can a Low-Dividend or a No-Dividend Stock Have a High Cost of Capital? 407

**13.7 Cost of Capital for Divisions and Projects** 408

**13.8 Cost of Fixed Income Securities** 410  
 Cost of Debt 410  
 Cost of Preferred Stock 412

**13.9 The Weighted Average Cost of Capital** 412

**13.10 Estimating Eastman Chemical's Cost of Capital** 415

**13.11 Flotation Costs and the Weighted Average Cost of Capital** 417  
 The Basic Approach 417  
 Flotation Costs and NPV 418  
 Internal Equity and Flotation Costs 419  
 Summary and Conclusions 419  
 Concept Questions 420  
 Questions and Problems 421

**Appendix 13A: Economic Value Added and the Measurement of Financial Performance** 426  
 Mini Case: The Cost of Capital for Goff Computer, Inc. 426

**PART IV Capital Structure and Dividend Policy**

**Chapter 14 Efficient Capital Markets and Behavioral Challenges** 428

**14.1 Can Financing Decisions Create Value?** 428

**14.2 A Description of Efficient Capital Markets** 430  
 Foundations of Market Efficiency 432

**14.3 The Different Types of Efficiency** 433  
 The Weak Form 433  
 The Semistrong and Strong Forms 435  
 Some Common Misconceptions about the Efficient Market Hypothesis 436

**14.4 The Evidence** 437  
 The Weak Form 437

The Semistrong Form 439  
 The Strong Form 443

**14.5 The Behavioral Challenge to Market Efficiency** 443

**14.6 Empirical Challenges to Market Efficiency** 445

**14.7 Reviewing the Differences** 451  
 Representativeness 451  
 Conservatism 452  
 The Academic Viewpoints 452

**14.8 Implications for Corporate Finance** 453  
 1. Accounting Choices, Financial Choices, and Market Efficiency 453  
 2. The Timing Decision 454  
 3. Speculation and Efficient Markets 455  
 4. Information in Market Prices 457  
 Summary and Conclusions 460  
 Concept Questions 460  
 Questions and Problems 463  
 Mini Case: Your 401(k) Account at East Coast Yachts 465

**Chapter 15 Long-Term Financing: An Introduction** 467

**15.1 Some Features of Common and Preferred Stocks** 467  
 Common Stock Features 467  
 Preferred Stock Features 470

**15.2 Corporate Long-Term Debt** 472  
 Is It Debt or Equity? 472  
 Long-Term Debt: The Basics 472  
 The Indenture 474

**15.3 Some Different Types of Bonds** 477  
 Floating-Rate Bonds 477  
 Other Types of Bonds 478

**15.4 Long-Term Syndicated Bank Loans** 479

**15.5 International Bonds** 480

**15.6 Patterns of Financing** 480

**15.7 Recent Trends in Capital Structure** 482  
 Which Are Best: Book or Market Values? 483  
 Summary and Conclusions 484  
 Concept Questions 484  
 Questions and Problems 485

**Chapter 16 Capital Structure: Basic Concepts** 488

**16.1 The Capital Structure Question and the Pie Theory** 488

**16.2 Maximizing Firm Value versus Maximizing Stockholder Interests** 489



<b>16.3</b>	<b>Financial Leverage and Firm Value: An Example</b>	<b>491</b>	<b>17.8</b>	<b>Growth and the Debt–Equity Ratio</b>	<b>540</b>		
	Leverage and Returns to Shareholders	491		No Growth	540		
	The Choice between Debt and Equity	493		Growth	541		
	A Key Assumption	495	<b>17.9</b>	<b>Personal Taxes</b>	<b>542</b>		
<b>16.4</b>	<b>Modigliani and Miller: Proposition II (No Taxes)</b>	<b>495</b>		The Basics of Personal Taxes	542		
	Risk to Equityholders Rises with Leverage	495		The Effect of Personal Taxes on Capital Structure	543		
	Proposition II: Required Return to Equityholders Rises with Leverage	496	<b>17.10</b>	<b>How Firms Establish Capital Structure</b>	<b>544</b>		
	MM: An Interpretation	502		Summary and Conclusions	548		
<b>16.5</b>	<b>Taxes</b>	<b>504</b>		Concept Questions	548		
	The Basic Insight	504		Questions and Problems	549		
	Present Value of the Tax Shield	506	<b>Appendix 17A:</b>	<b>Some Useful Formulas of Financial Structure</b>	<b>552</b>		
	Value of the Levered Firm	506	<b>Appendix 17B:</b>	<b>The Miller Model and the Graduated Income Tax</b>	<b>552</b>		
	Expected Return and Leverage under Corporate Taxes	508		Mini Case: McKenzie Corporation's Capital Budgeting	552		
	The Weighted Average Cost of Capital, $R_{WACC}$ , and Corporate Taxes	510	<b>Chapter 18</b>	<b>Valuation and Capital Budgeting for the Levered Firm</b>	<b>553</b>		
	Stock Price and Leverage under Corporate Taxes	511		<b>18.1</b>	<b>Adjusted Present Value Approach</b>	<b>553</b>	
	Summary and Conclusions	513		<b>18.2</b>	<b>Flow to Equity Approach</b>	<b>555</b>	
	Concept Questions	513		Step 1: Calculating Levered Cash Flow (LCF)	555		
	Questions and Problems	514		Step 2: Calculating $R_s$	556		
	S&P Problems	518		Step 3: Valuation	556		
	Mini Case: Stephenson Real Estate Recapitalization	519		<b>18.3</b>	<b>Weighted Average Cost of Capital Method</b>	<b>556</b>	
<b>Chapter 17</b>	<b>Capital Structure: Limits to the Use of Debt</b>	<b>520</b>		<b>18.4</b>	<b>A Comparison of the APV, FTE, and WACC Approaches</b>	<b>557</b>	
	<b>17.1</b>	<b>Costs of Financial Distress</b>	<b>520</b>		A Suggested Guideline	558	
		Bankruptcy Risk or Bankruptcy Cost?	520	<b>18.5</b>	<b>Capital Budgeting When the Discount Rate Must Be Estimated</b>	<b>560</b>	
	<b>17.2</b>	<b>Description of Financial Distress Costs</b>	<b>523</b>		<b>18.6</b>	<b>APV Example</b>	<b>562</b>
		Direct Costs of Financial Distress: Legal and Administrative Costs of Liquidation or Reorganization	523		<b>18.7</b>	<b>Beta and Leverage</b>	<b>565</b>
		Indirect Costs of Financial Distress	524		The Project Is Not Scale Enhancing	567	
		Agency Costs	525		Summary and Conclusions	568	
	<b>17.3</b>	<b>Can Costs of Debt Be Reduced?</b>	<b>528</b>		Concept Questions	568	
		Protective Covenants	528		Questions and Problems	569	
		Consolidation of Debt	529		S&P Problem	572	
	<b>17.4</b>	<b>Integration of Tax Effects and Financial Distress Costs</b>	<b>530</b>	<b>Appendix 18A:</b>	<b>The Adjusted Present Value Approach to Valuing Leveraged Buyouts</b>	<b>573</b>	
		Pie Again	531		Mini Case: The Leveraged Buyout of Cheek Products, Inc.	573	
	<b>17.5</b>	<b>Signaling</b>	<b>533</b>	<b>Chapter 19</b>	<b>Dividends and Other Payouts</b>	<b>575</b>	
	<b>17.6</b>	<b>Shirking, Perquisites, and Bad Investments: A Note on Agency Cost of Equity</b>	<b>534</b>		<b>19.1</b>	<b>Different Types of Payouts</b>	<b>575</b>
		Effect of Agency Costs of Equity on Debt–Equity Financing	536		<b>19.2</b>	<b>Standard Method of Cash Dividend Payment</b>	<b>575</b>
		Free Cash Flow	536				
	<b>17.7</b>	<b>The Pecking-Order Theory</b>	<b>537</b>				
		Rules of the Pecking Order	538				
		Implications	539				

<b>19.3</b>	<b>The Benchmark Case: An Illustration of the Irrelevance of Dividend Policy</b>	<b>578</b>	<b>PART V Long-Term Financing</b>	
	Current Policy: Dividends Set Equal to Cash Flow	578	<b>Chapter 20</b>	
	Alternative Policy: Initial Dividend Is Greater Than Cash Flow	578	<b>Issuing Securities to the Public</b>	<b>616</b>
	The Indifference Proposition	579	<b>20.1 The Public Issue</b>	<b>616</b>
	Homemade Dividends	580	The Basic Procedure for a New Issue	616
	A Test	581	<b>20.2 Alternative Issue Methods</b>	<b>617</b>
	Dividends and Investment Policy	582	<b>20.3 The Cash Offer</b>	<b>619</b>
<b>19.4</b>	<b>Repurchase of Stock</b>	<b>582</b>	Investment Banks	622
	Dividend versus Repurchase: Conceptual Example	583	The Offering Price	623
	Dividends versus Repurchases: Real-World Considerations	584	Underpricing: A Possible Explanation	624
<b>19.5</b>	<b>Personal Taxes, Dividends, and Stock Repurchases</b>	<b>586</b>	<b>20.4 What CFOs Say about the IPO Process</b>	<b>627</b>
	Firms without Sufficient Cash to Pay a Dividend	586	<b>20.5 The Announcement of New Equity and the Value of the Firm</b>	<b>628</b>
	Firms with Sufficient Cash to Pay a Dividend	587	<b>20.6 The Cost of New Issues</b>	<b>629</b>
	Summary of Personal Taxes	589	The Costs of Going Public: The Case of Symbion	632
<b>19.6</b>	<b>Real-World Factors Favoring a High-Dividend Policy</b>	<b>590</b>	<b>20.7 Rights</b>	<b>633</b>
	Desire for Current Income	590	The Mechanics of a Rights Offering	633
	Behavioral Finance	590	Subscription Price	634
	Agency Costs	591	Number of Rights Needed to Purchase a Share	634
	Information Content of Dividends and Dividend Signaling	592	Effect of Rights Offering on Price of Stock	635
<b>19.7</b>	<b>The Clientele Effect: A Resolution of Real-World Factors?</b>	<b>595</b>	Effects on Shareholders	636
<b>19.8</b>	<b>What We Know and Do Not Know about Dividend Policy</b>	<b>597</b>	The Underwriting Arrangements	637
	Corporate Dividends Are Substantial	597	<b>20.8 The Rights Puzzle</b>	<b>637</b>
	Fewer Companies Pay Dividends	598	<b>20.9 Dilution</b>	<b>639</b>
	Corporations Smooth Dividends	599	Dilution of Proportionate Ownership	639
	Some Survey Evidence about Dividends	600	Dilution of Value: Book versus Market Values	640
<b>19.9</b>	<b>Putting It All Together</b>	<b>602</b>	<b>20.10 Shelf Registration</b>	<b>641</b>
<b>19.10</b>	<b>Stock Dividends and Stock Splits</b>	<b>604</b>	<b>20.11 The Private Equity Market</b>	<b>642</b>
	Some Details about Stock Splits and Stock Dividends	604	Private Placement	642
	Value of Stock Splits and Stock Dividends	606	The Private Equity Firm	643
	Reverse Splits	607	Suppliers of Venture Capital	643
	Summary and Conclusions	608	Stages of Financing	644
	Concept Questions	608	Summary and Conclusions	646
	Questions and Problems	610	Concept Questions	646
	S&P Problem	614	Questions and Problems	648
	Mini Case: Electronic Timing, Inc.	614	Mini Case: East Coast Yachts Goes Public	651
			<b>Chapter 21</b>	
			<b>Leasing</b>	<b>652</b>
			<b>21.1 Types of Leases</b>	<b>652</b>
			The Basics	652
			Operating Leases	652
			Financial Leases	653

<b>21.2</b>	<b>Accounting and Leasing</b>	<b>654</b>	A Quick Discussion of Factors Determining Put Option Values	690
<b>21.3</b>	<b>Taxes, the IRS, and Leases</b>	<b>656</b>		
<b>21.4</b>	<b>The Cash Flows of Leasing</b>	<b>656</b>	<b>22.8 An Option Pricing Formula</b>	<b>690</b>
<b>21.5</b>	<b>A Detour for Discounting and Debt Capacity with Corporate Taxes</b>	<b>658</b>	A Two-State Option Model	691
	Present Value of Riskless Cash Flows	659	The Black–Scholes Model	693
	Optimal Debt Level and Riskless Cash Flows	660	<b>22.9 Stocks and Bonds as Options</b>	<b>698</b>
<b>21.6</b>	<b>NPV Analysis of the Lease-versus-Buy Decision</b>	<b>660</b>	The Firm Expressed in Terms of Call Options	699
	The Discount Rate	661	The Firm Expressed in Terms of Put Options	700
<b>21.7</b>	<b>Debt Displacement and Lease Valuation</b>	<b>661</b>	A Resolution of the Two Views	701
	The Basic Concept of Debt Displacement	661	A Note about Loan Guarantees	702
	Optimal Debt Level in the Xomox Example	662	<b>22.10 Options and Corporate Decisions: Some Applications</b>	<b>703</b>
<b>21.8</b>	<b>Does Leasing Ever Pay? The Base Case</b>	<b>665</b>	Mergers and Diversification	703
<b>21.9</b>	<b>Reasons for Leasing</b>	<b>666</b>	Options and Capital Budgeting	705
	Good Reasons for Leasing	666	<b>22.11 Investment in Real Projects and Options</b>	<b>707</b>
	Bad Reasons for Leasing	669	Summary and Conclusions	709
<b>21.10</b>	<b>Some Unanswered Questions</b>	<b>670</b>	Concept Questions	710
	Are the Uses of Leases and Debt Complementary?	670	Questions and Problems	711
	Why Are Leases Offered by Both Manufacturers and Third-Party Lessors?	670	Mini Case: Clissold Industries Options	718
	Why Are Some Assets Leased More Than Others?	670		
	Summary and Conclusions	671		
	Concept Questions	671		
	Questions and Problems	672		
<b>Appendix 21A:</b>	<b>APV Approach to Leasing</b>	<b>674</b>		
	Mini Case: The Decision to Lease or Buy at Warf Computers	675		
<b>PART VI Options, Futures, and Corporate Finance</b>				
<b>Chapter 22</b>				
<b>Options and Corporate Finance 676</b>				
<b>22.1</b>	<b>Options</b>	<b>676</b>		
<b>22.2</b>	<b>Call Options</b>	<b>677</b>		
	The Value of a Call Option at Expiration	677		
<b>22.3</b>	<b>Put Options</b>	<b>678</b>		
	The Value of a Put Option at Expiration	678		
<b>22.4</b>	<b>Selling Options</b>	<b>680</b>		
<b>22.5</b>	<b>Option Quotes</b>	<b>681</b>		
<b>22.6</b>	<b>Combinations of Options</b>	<b>682</b>		
<b>22.7</b>	<b>Valuing Options</b>	<b>685</b>		
	Bounding the Value of a Call	685		
	The Factors Determining Call Option Values	687		
<b>Chapter 23</b>				
<b>Options and Corporate Finance: Extensions and Applications 719</b>				
<b>23.1</b>	<b>Executive Stock Options</b>	<b>719</b>		
	Why Options?	719		
	Valuing Executive Compensation	720		
<b>23.2</b>	<b>Valuing a Start-Up</b>	<b>723</b>		
<b>23.3</b>	<b>More about the Binomial Model</b>	<b>726</b>		
	Heating Oil	727		
<b>23.4</b>	<b>Shutdown and Reopening Decisions</b>	<b>733</b>		
	Valuing a Gold Mine	733		
	The Abandonment and Opening Decisions	734		
	Valuing the Simple Gold Mine	735		
	Summary and Conclusions	740		
	Concept Questions	740		
	Questions and Problems	741		
	Mini Case: Exotic Cuisines Employee Stock Options	742		
<b>Chapter 24</b>				
<b>Warrants and Convertibles 744</b>				
<b>24.1</b>	<b>Warrants</b>	<b>744</b>		
<b>24.2</b>	<b>The Difference between Warrants and Call Options</b>	<b>745</b>		
	How the Firm Can Hurt Warrant Holders	748		
<b>24.3</b>	<b>Warrant Pricing and the Black–Scholes Model</b>	<b>748</b>		
<b>24.4</b>	<b>Convertible Bonds</b>	<b>749</b>		

<b>24.5</b>	<b>The Value of Convertible Bonds</b>	<b>750</b>
	Straight Bond Value	750
	Conversion Value	750
	Option Value	751
<b>24.6</b>	<b>Reasons for Issuing Warrants and Convertibles</b>	<b>753</b>
	Convertible Debt versus Straight Debt	753
	Convertible Debt versus Common Stock	753
	The “Free Lunch” Story	754
	The “Expensive Lunch” Story	755
	A Reconciliation	755
<b>24.7</b>	<b>Why Are Warrants and Convertibles Issued?</b>	<b>755</b>
	Matching Cash Flows	756
	Risk Synergy	756
	Agency Costs	756
	Backdoor Equity	757
<b>24.8</b>	<b>Conversion Policy</b>	<b>757</b>
	Summary and Conclusions	758
	Concept Questions	759
	Questions and Problems	759
	Mini Case: S&S Air’s Convertible Bond	762

## Chapter 25

### Derivatives and Hedging Risk

<b>25.1</b>	<b>Derivatives, Hedging, and Risk</b>	<b>763</b>
<b>25.2</b>	<b>Forward Contracts</b>	<b>764</b>
<b>25.3</b>	<b>Futures Contracts</b>	<b>765</b>
<b>25.4</b>	<b>Hedging</b>	<b>769</b>
<b>25.5</b>	<b>Interest Rate Futures Contracts</b>	<b>771</b>
	Pricing of Treasury Bonds	771
	Pricing of Forward Contracts	772
	Futures Contracts	773
	Hedging in Interest Rate Futures	774
<b>25.6</b>	<b>Duration Hedging</b>	<b>778</b>
	The Case of Zero Coupon Bonds	778
	The Case of Two Bonds with the Same Maturity but with Different Coupons	779
	Duration	780
	Matching Liabilities with Assets	782
<b>25.7</b>	<b>Swaps Contracts</b>	<b>784</b>
	Interest Rate Swaps	784
	Currency Swaps	786
	Credit Default Swap (CDS)	786
	Exotics	787
<b>25.8</b>	<b>Actual Use of Derivatives</b>	<b>789</b>
	Summary and Conclusions	790
	Concept Questions	790
	Questions and Problems	792
	Mini Case: Williamson Mortgage, Inc.	794

## PART VII Short-Term Finance

### Chapter 26

#### Short-Term Finance and Planning 795

<b>26.1</b>	<b>Tracing Cash and Net Working Capital</b>	<b>796</b>
<b>26.2</b>	<b>The Operating Cycle and the Cash Cycle</b>	<b>797</b>
	Defining the Operating and Cash Cycles	798
	The Operating Cycle and the Firm’s Organization Chart	800
	Calculating the Operating and Cash Cycles	800
	Interpreting the Cash Cycle	803
	A Look at Operating and Cash Cycles	803
<b>26.3</b>	<b>Some Aspects of Short-Term Financial Policy</b>	<b>804</b>
	The Size of the Firm’s Investment in Current Assets	805
	Alternative Financing Policies for Current Assets	808
	Which Is Best?	809
<b>26.4</b>	<b>Cash Budgeting</b>	<b>810</b>
	Cash Outflow	811
	The Cash Balance	812
<b>26.5</b>	<b>The Short-Term Financial Plan</b>	<b>812</b>
	Unsecured Loans	812
	Secured Loans	813
	Other Sources	813
	Summary and Conclusions	813
	Concept Questions	814
	Questions and Problems	814
	S&P Problems	822
	Mini Case: Keafer Manufacturing Working Capital Management	822

### Chapter 27

#### Cash Management 824

<b>27.1</b>	<b>Reasons for Holding Cash</b>	<b>824</b>
	The Speculative and Precautionary Motives	824
	The Transaction Motive	825
	Compensating Balances	825
	Costs of Holding Cash	825
	Cash Management versus Liquidity Management	825
<b>27.2</b>	<b>Understanding Float</b>	<b>826</b>
	Disbursement Float	826
	Collection Float and Net Float	827
	Float Management	828
	Electronic Data Interchange and Check 21: The End of Float?	831

<b>27.3 Cash Collection and Concentration</b>	<b>832</b>	<b>28.6 Collection Policy</b>	<b>859</b>
Components of Collection Time	832	Monitoring Receivables	859
Cash Collection	833	Collection Effort	860
Lockboxes	833	<b>28.7 Inventory Management</b>	<b>861</b>
Cash Concentration	834	The Financial Manager and Inventory Policy	861
Accelerating Collections: An Example	835	Inventory Types	861
<b>27.4 Managing Cash Disbursements</b>	<b>837</b>	Inventory Costs	862
Increasing Disbursement Float	837	<b>28.8 Inventory Management Techniques</b>	<b>862</b>
Controlling Disbursements	838	The ABC Approach	863
<b>27.5 Investing Idle Cash</b>	<b>839</b>	The Economic Order Quantity Model	863
Temporary Cash Surpluses	839	Extensions to the EOQ Model	867
Characteristics of Short-Term Securities	840	Managing Derived-Demand Inventories	869
Some Different Types of Money Market Securities	840	Summary and Conclusions	870
Summary and Conclusions	841	Concept Questions	870
Concept Questions	842	Questions and Problems	871
Questions and Problems	843	<b>Appendix 28A: More about Credit Policy Analysis</b>	<b>874</b>
<b>Appendix 27A: Determining the Target Cash Balance</b>	<b>845</b>	Mini Case: Credit Policy at Braam Industries	874
<b>Appendix 27B: Adjustable Rate Preferred Stock, Auction Rate Preferred Stock, and Floating-Rate Certificates of Deposit</b>	<b>845</b>		
Mini Case: Cash Management at Richmond Corporation	845		
<b>Chapter 28</b>		<b>PART VIII Special Topics</b>	
<b>Credit and Inventory Management</b>	<b>846</b>	<b>Chapter 29</b>	
<b>28.1 Credit and Receivables</b>	<b>846</b>	<b>Mergers, Acquisitions, and Divestitures</b>	<b>875</b>
Components of Credit Policy	846	<b>29.1 The Basic Forms of Acquisitions</b>	<b>875</b>
The Cash Flows from Granting Credit	847	Merger or Consolidation	875
The Investment in Receivables	847	Acquisition of Stock	876
<b>28.2 Terms of the Sale</b>	<b>848</b>	Acquisition of Assets	876
The Basic Form	848	A Classification Scheme	877
The Credit Period	848	A Note about Takeovers	877
Cash Discounts	850	<b>29.2 Synergy</b>	<b>878</b>
Credit Instruments	851	<b>29.3 Sources of Synergy</b>	<b>879</b>
<b>28.3 Analyzing Credit Policy</b>	<b>852</b>	Revenue Enhancement	879
Credit Policy Effects	852	Cost Reduction	880
Evaluating a Proposed Credit Policy	852	Tax Gains	882
<b>28.4 Optimal Credit Policy</b>	<b>854</b>	Reduced Capital Requirements	884
The Total Credit Cost Curve	855	<b>29.4 Two Financial Side Effects of Acquisitions</b>	<b>885</b>
Organizing the Credit Function	856	Earnings Growth	885
<b>28.5 Credit Analysis</b>	<b>856</b>	Diversification	886
When Should Credit Be Granted?	857	<b>29.5 A Cost to Stockholders from Reduction in Risk</b>	<b>887</b>
Credit Information	858	The Base Case	887
Credit Evaluation and Scoring	859	Both Firms Have Debt	887
		How Can Shareholders Reduce Their Losses from the Coinsurance Effect?	889
		<b>29.6 The NPV of a Merger</b>	<b>889</b>
		Cash	889
		Common Stock	891
		Cash versus Common Stock	892

<b>29.7</b>	<b>Friendly versus Hostile Takeovers</b>	<b>893</b>
<b>29.8</b>	<b>Defensive Tactics</b>	<b>895</b>
	Deterring Takeovers before Being in Play	896
	Deterring a Takeover after the Company Is in Play	898
<b>29.9</b>	<b>Do Mergers Add Value?</b>	<b>899</b>
	Returns to Bidders	900
	Target Companies	901
	The Managers versus the Stockholders	903
<b>29.10</b>	<b>The Tax Forms of Acquisitions</b>	<b>904</b>
<b>29.11</b>	<b>Accounting for Acquisitions</b>	<b>905</b>
<b>29.12</b>	<b>Going Private and Leveraged Buyouts</b>	<b>906</b>
<b>29.13</b>	<b>Divestitures</b>	<b>906</b>
	Sale	907
	Spin-Off	907
	Carve-Out	908
	Tracking Stocks	908
	Summary and Conclusions	909
	Concept Questions	910
	Questions and Problems	915
	Mini Case: The Birdie Golf–Hybrid Golf Merger	

## Chapter 30

### Financial Distress

<b>30.1</b>	<b>What Is Financial Distress?</b>	<b>917</b>
<b>30.2</b>	<b>What Happens in Financial Distress?</b>	<b>918</b>
<b>30.3</b>	<b>Bankruptcy Liquidation and Reorganization</b>	<b>921</b>
	Bankruptcy Liquidation	921
	Bankruptcy Reorganization	924
<b>30.4</b>	<b>Private Workout or Bankruptcy: Which Is Best?</b>	<b>926</b>
	The Marginal Firm	927
	Holdouts	927
	Complexity	927
	Lack of Information	928
<b>30.5</b>	<b>Prepackaged Bankruptcy</b>	<b>928</b>
<b>30.6</b>	<b>Predicting Corporate Bankruptcy: The Z-Score Model</b>	<b>929</b>
	Summary and Conclusions	931
	Concept Questions	931
	Questions and Problems	932

## Chapter 31

### International Corporate Finance

**933**

<b>31.1</b>	<b>Terminology</b>	<b>934</b>
<b>31.2</b>	<b>Foreign Exchange Markets and Exchange Rates</b>	<b>934</b>
	Exchange Rates	935
<b>31.3</b>	<b>Purchasing Power Parity</b>	<b>939</b>
	Absolute Purchasing Power Parity	940
	Relative Purchasing Power Parity	943
<b>31.4</b>	<b>Interest Rate Parity, Unbiased Forward Rates, and the International Fisher Effect</b>	<b>945</b>
	Covered Interest Arbitrage	945
	Interest Rate Parity	946
	Forward Rates and Future Spot Rates	947
	Putting It All Together	948
<b>31.5</b>	<b>International Capital Budgeting</b>	<b>949</b>
	Method 1: The Home Currency Approach	950
	Method 2: The Foreign Currency Approach	950
	Unremitted Cash Flows	951
	The Cost of Capital for International Firms	951
<b>31.6</b>	<b>Exchange Rate Risk</b>	<b>952</b>
	Short-Term Exposure	952
	Long-Term Exposure	953
	Translation Exposure	954
	Managing Exchange Rate Risk	955
<b>31.7</b>	<b>Political Risk</b>	<b>955</b>
	Summary and Conclusions	956
	Concept Questions	957
	Questions and Problems	958
	S&P Problem	961
	Mini Case: East Coast Yachts Goes International	961

*Appendix A: Mathematical Tables* **963**

*Appendix B: Solutions to Selected End-of-Chapter Problems* **972**

*Name Index* **975**

*Subject Index* **978**