

Corporate Finance

THIRTEENTH EDITION

Stephen A. Ross

Randolph W. Westerfield

Marshall School of Business
University of Southern California, Emeritus

Jeffrey Jaffe

Wharton School of Business
University of Pennsylvania

Bradford D. Jordan

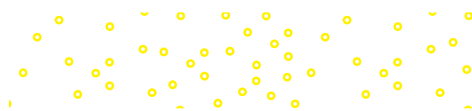
University of Florida

With Special Contributor

Kelly Shue

Yale University

Mc
Graw
Hill



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	42

Part II

VALUATION AND CAPITAL BUDGETING

4	Discounted Cash Flow Valuation	85
5	Net Present Value and Other Investment Rules	133
6	Making Capital Investment Decisions	169
7	Risk Analysis, Real Options, and Capital Budgeting	205
8	Interest Rates and Bond Valuation	235
9	Stock Valuation	270

Part III

RISK

10	Lessons from Market History	299
11	Return, Risk, and the Capital Asset Pricing Model	328
12	An Alternative View of Risk and Return	371
13	Risk, Cost of Capital, and Valuation	393

Part IV

CAPITAL STRUCTURE AND DIVIDEND POLICY

14	Efficient Capital Markets and Behavioral Challenges	430
15	Long-Term Financing	470
16	Capital Structure: Basic Concepts	490
17	Capital Structure: Limits to the Use of Debt	523
18	Valuation and Capital Budgeting for the Levered Firm	555
19	Dividends and Other Payouts	577

Part V

LONG-TERM FINANCING

20 Raising Capital	616
21 Leasing	653

Part VI

OPTIONS, FUTURES, AND CORPORATE FINANCE

22 Options and Corporate Finance	677
23 Options and Corporate Finance: Extensions and Applications	722
24 Warrants and Convertibles	745
25 Derivatives and Hedging Risk	766

Part VII

SHORT-TERM FINANCE

26 Short-Term Finance and Planning	799
27 Cash Management	829
28 Credit and Inventory Management	851

Part VIII

SPECIAL TOPICS

29 Mergers, Acquisitions, and Divestitures	880
30 Financial Distress	923
31 International Corporate Finance	939

<i>Appendix A: Mathematical Tables</i>	967
--	------------

<i>Appendix B: Solutions to Selected End-of-Chapter Problems</i>	976
--	------------

<i>Appendix C: Using the HP 10B and TI BA II Plus Financial Calculators</i>	979
---	------------

<i>Glossary</i>	983
-----------------	------------

<i>Name Index</i>	991
-------------------	------------

<i>Subject Index</i>	994
----------------------	------------

Contents

PART I Overview

CHAPTER 1

Introduction to Corporate Finance 1

1.1	What Is Corporate Finance?	1
	The Balance Sheet Model of the firm	1
	The Financial Manager	3
1.2	The Corporate Firm	4
	The Sole Proprietorship	4
	The Partnership	4
	The Corporation	5
	A Corporation by Another Name . . .	7
1.3	The Importance of Cash Flows	8
	Identification of Cash Flows	8
	Timing of Cash Flows	9
	Risk of Cash Flows	10
1.4	The Goal of Financial Management	10
	Possible Goals	10
	The Goal of the Financial Manager	11
	A More General Goal	12
1.5	The Agency Problem and Control of the Corporation	12
	Agency Relationships	13
	Management Goals	14
	Do Managers Act in the Stockholders' Interests?	14
	Stakeholders	16
1.6	Regulation	16
	The Securities Act of 1933 and the Securities Exchange Act of 1934	16
	Sarbanes-Oxley	17
	Summary and Conclusions	18
	Concept Questions	18

CHAPTER 2

Financial Statements and Cash Flow 20

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

2.4	Net Working Capital	27
2.5	Cash Flow of the Firm	28
2.6	The Accounting Statement of Cash Flows	31
	Cash Flow from Operating Activities	31
	Cash Flow from Investing Activities	32
	Cash Flow from Financing Activities	32
2.7	Cash Flow Management	33
	Summary and Conclusions	34
	Concept Questions	34
	Questions and Problems	35
	Excel Master It! Problem	39
	Mini Case: Cash Flows at Warf Computers, Inc.	40

CHAPTER 3

Financial Statements Analysis and Financial Models 42

3.1	Financial Statements Analysis	42
	Standardizing Statements	42
	Common-Size Balance Sheets	43
	Common-Size Income Statements	44
3.2	Ratio Analysis	46
	Short-Term Solvency or Liquidity Measures	47
	Long-Term Solvency Measures	48
	Asset Management or Turnover Measures	50
	Profitability Measures	52
	Market Value Measures	53
3.3	The DuPont Identity	56
	A Closer Look at ROE	57
	Problems with Financial Statement Analysis	58
3.4	Financial Models	59
	A Simple Financial Planning Model	59
	The Percentage of Sales Approach	61
3.5	External Financing and Growth	65
	The Relationship between EFN and Growth	66
	Financial Policy and Growth	68
	A Note about Sustainable Growth Rate Calculations	72
3.6	Some Caveats Regarding Financial Planning Models	73
	Summary and Conclusions	74
	Concept Questions	74
	Questions and Problems	76
	Excel Master It! Problem	81
	Mini Case: Ratios and Financial Planning at East Coast Yachts	82

PART II Valuation and Capital Budgeting

CHAPTER 4

Discounted Cash Flow Valuation 85

4.1	Valuation: The One-Period Case	85
4.2	The Multiperiod Case	89
	Future Value and Compounding	89
	The Power of Compounding: A Digression	92
	Present Value and Discounting	93
	Finding the Number of Periods	96
	The Algebraic Formula	99
4.3	Compounding Periods	100
	Distinction between Annual Percentage Rate and Effective Annual Rate	101
	Compounding over Many Years	102
	Continuous Compounding	102
4.4	Simplifications	104
	Perpetuity	104
	Growing Perpetuity	106
	Annuity	107
	Growing Annuity	113
4.5	Loan Amortization	114
4.6	What Is a Firm Worth?	118
	Summary and Conclusions	120
	Concept Questions	121
	Questions and Problems	121
	Excel Master It! Problem	131
	Mini Case: The MBA Decision	132
	Appendix 4A: Net Present Value: First Principles of Finance	132
	Appendix 4B: Using Financial Calculators	132

CHAPTER 5

Net Present Value and Other Investment Rules 133

5.1	Why Use Net Present Value?	133
5.2	The Payback Period Method	136
	Defining the Rule	136
	Problems with the Payback Method	137
	Managerial Perspective	138
	Summary of Payback	139
5.3	The Discounted Payback Period Method	139
5.4	The Internal Rate of Return	140
5.5	Problems with the IRR Approach	143
	Definition of Independent and Mutually Exclusive Projects	143
	Two General Problems Affecting both Independent and Mutually Exclusive Projects	143

	The Modified Internal Rate of Return (MIRR)	146
	Problems Specific to Mutually Exclusive Projects	148
	Redeeming Qualities of IRR A Test	153
5.6	The Profitability Index	153
	Calculation of Profitability Index	154
5.7	The Practice of Capital Budgeting	155
	Summary and Conclusions	157
	Concept Questions	158
	Questions and Problems	160
	Excel Master It! Problem	167
	Mini Case: Bullock Gold Mining	168

CHAPTER 6

Making Capital Investment Decisions 169

6.1	Incremental Cash Flows: The Key to Capital Budgeting	169
	Cash Flows—Not Accounting Income	169
	Sunk Costs	170
	Opportunity Costs	171
	Side Effects	171
	Allocated Costs	172
6.2	The Baldwin Company: An Example	172
	An Analysis of the Project	175
	Which Set of Books?	177
	A Note about Net Working Capital	177
	A Note about Depreciation	178
	Financing Costs	179
6.3	Alternative Definitions of Operating Cash Flow	179
	The Top-Down Approach	180
	The Bottom-Up Approach	180
	The Tax Shield Approach	181
	Conclusion	182
6.4	Some Special Cases of Discounted Cash Flow Analysis	182
	Evaluating Cost-Cutting Proposals	182
	Setting the Bid Price	184
	Investments of Unequal Lives: The Equivalent Annual Cost Method	186
6.5	Inflation and Capital Budgeting	187
	Interest Rates and Inflation	187
	Cash Flow and Inflation	189
	Discounting: Nominal or Real?	190
	Summary and Conclusions	192
	Concept Questions	193
	Questions and Problems	194
	Excel Master It! Problems	203
	Mini Cases: Bethesda Mining Company	203
	Goodweek Tires, Inc.	204

CHAPTER 7

Risk Analysis, Real Options, and Capital Budgeting 205

7.1	Sensitivity Analysis, Scenario Analysis, and Break–Even Analysis	205
	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	214
	Step 3: The Computer Draws One Outcome	217
	Step 4: Repeat the Procedure	217
	Step 5: Calculate NPV	217
7.3	Real Options	218
	The Option to Expand	219
	The Option to Abandon	219
	Timing Options	222
7.4	Decision Trees	223
	Summary and Conclusions	225
	Concept Questions	226
	Questions and Problems	226
	Excel Master It! Problem	232
	Mini Case: Bunyan Lumber, LLC	233

CHAPTER 8

Interest Rates and Bond Valuation 235

8.1	Bonds and Bond Valuation	235
	Bond Features and Prices	235
	Bond Values and Yields	236
	Interest Rate Risk	239
	Finding the Yield to Maturity:	
	More Trial and Error	241
	Zero Coupon Bonds	244
8.2	Government and Corporate Bonds	245
	Government Bonds	245
	Corporate Bonds	246
	Bond Ratings	248
8.3	Bond Markets	250
	How Bonds Are Bought and Sold	250
	Bond Price Reporting	250
	A Note on Bond Price Quotes	253
8.4	Inflation and Interest Rates	254
	Real versus Nominal Rates	254
	Inflation Risk and Inflation-Linked Bonds	255
	The Fisher Effect	256
8.5	Determinants of Bond Yields	258
	The Term Structure of Interest Rates	258
	Bond Yields and the Yield Curve:	
	Putting It All Together	260

Conclusion	262
Summary and Conclusions	262
Concept Questions	262
Questions and Problems	263
Excel Master It! Problem	267
Mini Case: Financing East Coast Yachts' Expansion Plans with a Bond Issue	268

CHAPTER 9

Stock Valuation 270

9.1	The Present Value of Common Stocks	270
	Dividends versus Capital Gains	270
	Valuation of Different Types of Stocks	271
9.2	Estimates of Parameters in the Dividend Discount Model	275
	Where Does g Come From?	275
	Where Does R Come From?	277
	A Healthy Sense of Skepticism	278
	Dividends or Earnings: Which to Discount?	279
	The No-Dividend Firm	279
9.3	Comparables	280
	Price-Earnings Ratio	280
	Enterprise Value Ratios	282
9.4	Valuing Stocks Using Free Cash Flows	284
9.5	The Stock Markets	285
	Dealers and Brokers	285
	Organization of the NYSE	286
	Types of Orders	289
	Nasdaq Operations	289
	Stock Market Reporting	290
	Summary and Conclusions	291
	Concept Questions	292
	Questions and Problems	293
	Excel Master It! Problem	296
	Mini Case: Stock Valuation at Ragan Engines	297

PART III Risk

CHAPTER 10

Lessons from Market History 299

10.1	Returns	299
	Dollar Returns	299
	Percentage Returns	301
10.2	Holding Period Returns	303
10.3	Return Statistics	309
10.4	Average Stock Returns and Risk-Free Returns	310
10.5	Risk Statistics	312
	Variance	312
	Normal Distribution and Its Implications for Standard Deviation	314

10.6	More on Average Returns	315	Excel Master It! Problem	368
	Arithmetic versus Geometric Averages	315	Mini Case: A Job at East Coast	
	Calculating Geometric Average Returns	315	Yachts, Part 2	369
	Arithmetic Average Return or Geometric Average Return?	317	Appendix 11A: Is Beta Dead?	370
10.7	The U.S. Equity Risk Premium: Historical and International Perspectives	317		
10.8	2008: A Year of Financial Crisis	320		
	Summary and Conclusions	322		
	Concept Questions	322		
	Questions and Problems	323		
	Excel Master It! Problem	325		
	Mini Case: A Job at East Coast Yachts	326		
CHAPTER 11				
	Return, Risk, and the Capital Asset Pricing Model	328		
11.1	Individual Securities	328		
11.2	Expected Return, Variance, and Covariance	329		
	Expected Return and Variance	329		
	Covariance and Correlation	330		
11.3	The Return and Risk for Portfolios	334		
	The Expected Return on a Portfolio	334		
	Variance and Standard Deviation of a Portfolio	335		
11.4	The Efficient Set for Two Assets	338		
11.5	The Efficient Set for Many Securities	342		
	Variance and Standard Deviation in a Portfolio of Many Assets	344		
11.6	Diversification	345		
	The Anticipated and Unanticipated Components of News	345		
	Risk: Systematic and Unsystematic	346		
	The Essence of Diversification	347		
	The Effect of Diversification: Another Lesson from Market History	348		
11.7	Riskless Borrowing and Lending	349		
	The Optimal Portfolio	351		
11.8	Market Equilibrium	353		
	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		
11.9	Relationship between Risk and Expected Return (CAPM)	357		
	Expected Return on the Market	357		
	Expected Return on an Individual Security	358		
	Summary and Conclusions	361		
	Concept Questions	361		
	Questions and Problems	362		
CHAPTER 12				
	An Alternative View of Risk and Return	371		
12.1	Systematic Risk and Betas	371		
12.2	Portfolios and Factor Models	374		
	Portfolios and Diversification	377		
12.3	Betas, Arbitrage, and Expected Returns	379		
	The Linear Relationship	379		
	The Market Portfolio and the Single Factor	380		
12.4	The Capital Asset Pricing Model and the Arbitrage Pricing Theory	381		
	Differences in Pedagogy	381		
	Differences in Application	381		
12.5	Empirical Approaches to Asset Pricing	383		
	Empirical Models	383		
	Style Portfolios	384		
	Summary and Conclusions	385		
	Concept Questions	386		
	Questions and Problems	387		
	Excel Master It! Problem	391		
	Mini Case: The Fama-French Multifactor Model and Mutual Fund Returns	391		
CHAPTER 13				
	Risk, Cost of Capital, and Valuation	393		
13.1	The Cost of Capital	393		
13.2	Estimating the Cost of Equity Capital with the CAPM	394		
	The Risk-Free Rate	397		
	Market Risk Premium	397		
13.3	Estimation of Beta	399		
	Real-World Betas	399		
	Stability of Beta	400		
13.4	Determinants of Beta	401		
	Cyclicality of Revenues	401		
	Operating Leverage	402		
	Financial Leverage and Beta	402		
	Beta in a World with Taxes	404		
13.5	The Dividend Discount Model Approach	404		
	Comparison of DDM and CAPM	405		
13.6	Cost of Capital for Projects	405		
	The Comparables Method	406		
	Using Industry Comparables	407		
13.7	Cost of Fixed Income Securities	408		
	Cost of Debt	408		
	Cost of Preferred Stock	409		

13.8	The Weighted Average Cost of Capital	410
	Cost of Levered Equity	410
	Financing with a Mix of Debt and Equity	410
	Applying the WACC	412
13.9	Valuation with WACC	413
	Valuing a Finite-Horizon Project	413
	Terminal Value and the WACC	414
13.10	Estimating Eastman Chemical's Cost of Capital	417
13.11	Flotation Costs and the Weighted Average Cost of Capital	418
	The Basic Approach	419
	Flotation Costs and NPV	420
	Internal Equity and Flotation Costs	421
	Summary and Conclusions	421
	Concept Questions	422
	Questions and Problems	423
	Excel Master It! Problem	428
	Mini Case: Cost of Capital for Master Tools	428
	Appendix 13A: Economic Value Added and the Measurement of Financial Performance	429

PART IV Capital Structure and Dividend Policy

CHAPTER 14

Efficient Capital Markets and Behavioral Challenges 430

14.1	Can Financing Decisions Create Value?	430
14.2	A Description of Efficient Capital Markets	432
	Foundations of Market Efficiency	434
14.3	The Different Types of Efficiency	435
	The Weak Form	436
	The Semistrong and Strong Forms	437
	Some Common Misconceptions about the Efficient Market Hypothesis	438
14.4	The Evidence	439
	The Weak Form	439
	The Semistrong Form	441
	The Strong Form	444
14.5	The Behavioral Challenge to Market Efficiency	445
	Rationality	445
	Independent Deviations from Rationality	447
	Arbitrage	447
14.6	Empirical Challenges to Market Efficiency	448
14.7	Reviewing the Differences	454
14.8	Implications for Corporate Finance	455
	1. Accounting Choices, Financial Choices, and Market Efficiency	455
	2. The Timing Decision	456

	3. Speculation and Efficient Markets	459
	4. Information in Market Prices	460
	Summary and Conclusions	461
	Concept Questions	462
	Questions and Problems	466
	Mini Case: Your 401(K) Account at East Coast Yachts	468

CHAPTER 15

Long-Term Financing 470

15.1	Some Features of Common and Preferred Stocks	470
	Common Stock Features	470
	Preferred Stock Features	473
15.2	Corporate Long-Term Debt	474
	Is it Debt or Equity?	475
	Long-Term Debt: The Basics	475
	The Indenture	477
15.3	Some Different Types of Bonds	480
	Floating-Rate Bonds	480
	Other Types of Bonds	481
15.4	Bank Loans	483
15.5	International Bonds	483
15.6	Patterns of Financing	484
15.7	Recent Trends in Capital Structure	485
	Which Are Best: Book or Market Values?	486
	Summary and Conclusions	487
	Concept Questions	487
	Questions and Problems	488

CHAPTER 16

Capital Structure: Basic Concepts 490

16.1	The Capital Structure Question and the Pie Theory	490
16.2	Maximizing Firm Value versus Maximizing Stockholder Interests	491
16.3	Financial Leverage and Firm Value: An Example	493
	Leverage and Returns to Shareholders	493
	The Choice between Debt and Equity	495
	A Key Assumption	497
16.4	Modigliani and Miller: Proposition II (No Taxes)	497
	Risk to Equityholders Rises with Leverage	497
	Proposition II: Required Return to Equityholders Rises with Leverage	498
	MM: An Interpretation	504
16.5	Taxes	506
	The Basic Insight	506
	Present Value of the Tax Shield	508
	Value of the Levered Firm	509
	Expected Return and Leverage under Corporate Taxes	511

The Weighted Average Cost of Capital, WACC, and Corporate Taxes	512
Stock Price and Leverage under Corporate Taxes	513
Summary and Conclusions	515
Concept Questions	515
Questions and Problems	516
Excel Master It! Problem	521
Mini Case: Stephenson Real Estate Recapitalization	521

CHAPTER 17

Capital Structure: Limits to the Use of Debt

523

17.1 Costs of Financial Distress	523
Bankruptcy Risk or Bankruptcy Cost?	523
17.2 Description of Financial Distress Costs	525
Direct Costs of Financial Distress: Legal and Administrative Costs of Liquidation or Reorganization	525
Indirect Costs of Financial Distress	527
Agency Costs	528
17.3 Can Costs of Debt Be Reduced?	531
Protective Covenants	531
Consolidation of Debt	533
17.4 Integration of Tax Effects and Financial Distress Costs	533
PIE Again	534
17.5 Signaling	536
17.6 Shirking, Perquisites, and Bad Investments: A Note on Agency Cost of Equity	537
Effect of Agency Costs of Equity on Debt-Equity Financing	539
Free Cash Flow	540
17.7 The Pecking-Order Theory	540
Rules of the Pecking Order	542
Implications	542
17.8 Personal Taxes	543
The Basics of Personal Taxes	543
The Effect of Personal Taxes on Capital Structure	543
17.9 How Firms Establish Capital Structure	544
Summary and Conclusions	549
Concept Questions	550
Questions and Problems	551
Mini Case: McKenzie Corporation's Capital Budgeting	553
Appendix 17A: Some Useful Formulas of Financial Structure	554
Appendix 17B: The Miller Model and the Graduated Income Tax	554

CHAPTER 18

Valuation and Capital Budgeting for the Levered Firm

555

18.1 Adjusted Present Value Approach	555
18.2 Flow to Equity Approach	557
Step 1: Calculating Levered Cash Flow (LCF)	557
Step 2: Calculating R_S	558
Step 3: Valuation	558
18.3 Weighted Average Cost of Capital Method	558
18.4 A Comparison of the APV, FTE, and WACC Approaches	559
A Suggested Guideline	560
18.5 Valuation When the Discount Rate Must Be Estimated	562
18.6 APV Example	564
18.7 Beta and Leverage	567
The Project Is Not Scale Enhancing	569
Summary and Conclusions	570
Concept Questions	570
Questions and Problems	571
Mini Case: The Leveraged Buyout of Cheek Products, Inc.	575
Appendix 18A: The Adjusted Present Value Approach to Valuing Leveraged Buyouts	576

CHAPTER 19

Dividends and Other Payouts

577

19.1 Different Types of Payouts	577
19.2 Standard Method of Cash Dividend Payment	578
19.3 The Benchmark Case: An Illustration of the Irrelevance of Dividend Policy	580
Current Policy: Dividends Set Equal to Cash Flow	580
Alternative Policy: Initial Dividend Is Greater Than Cash Flow	581
The Indifference Proposition	581
Homemade Dividends	582
A Test	583
Dividends and Investment Policy	583
19.4 Repurchase of Stock	584
Dividend versus Repurchase: Conceptual Example	585
Dividends versus Repurchases: Real-World Considerations	586
19.5 Personal Taxes, Dividends, and Stock Repurchases	587
Firms without Sufficient Cash To Pay a Dividend	588

	Firms with Sufficient Cash to Pay a Dividend	589		Underpricing: A Possible Explanation	631
	Summary of Personal Taxes	591		Evidence on Underpricing	633
19.6	Real-World Factors Favoring a High-Dividend Policy	591	20.5	The Announcement of New Equity and the Value of the Firm	635
	Desire for Current Income	591	20.6	The Cost of New Issues	636
	Behavioral Finance	592		The Costs of Going Public: A Case Study	637
	Agency Costs	593	20.7	Rights	638
	Information Content of Dividends and Dividend Signaling	594		The Mechanics of a Rights Offering	638
19.7	The Clientele Effect: A Resolution of Real-World Factors?	596		Subscription Price	638
				Number of Rights Needed to Purchase a Share	638
19.8	What We Know and Do Not Know about Dividend Policy	598		Effect of Rights Offering on Price of Stock	639
	Corporate Dividends Are Substantial	598		Effects on Shareholders	640
	Fewer Companies Pay Dividends	598	20.8	The Rights Puzzle	641
	Corporations Smooth Dividends	599	20.9	Dilution	642
	Some Survey Evidence about Dividends	601		Dilution of Percentage Ownership	642
19.9	Putting It All Together	602		Dilution of Stock Price	643
19.10	Stock Dividends and Stock Splits	604		Dilution of Book Value	644
	Some Details about Stock Splits and Stock Dividends	604		Dilution of Earnings per Share	644
	Value of Stock Splits and Stock Dividends	606		Conclusion	645
	Reverse Splits	607	20.10	Shelf Registration	645
	Summary and Conclusions	608	20.11	Issuing Long-Term Debt	646
	Concept Questions	609		Summary and Conclusions	647
	Questions and Problems	611		Concept Questions	647
	Mini Case: Electronic Timing, Inc.	615		Questions and Problems	649
				Mini Case: East Coast Yachts Goes Public	652

PART V Long-Term Financing

CHAPTER 20

Raising Capital 616

20.1	Entrepreneurship: Early-Stage Financing and Venture Capital	616
	Entrepreneurship	617
	Venture Capital	617
	Stages of Financing	619
	Some Venture Capital Realities	620
	Venture Capital Firms	621
	Crowdfunding	622
	Initial Coin Offerings	622
20.2	The Public Issue	623
	Direct Listing	625
	Special-Purpose Acquisition Companies	625
	Dual-Class Stock IPOs	625
20.3	Alternative Issue Methods	626
20.4	The Cash Offer	627
	Investment Banks	629
	The Offering Price	631

CHAPTER 21

Leasing 653

21.1	Types of Leases	653
	The Basics	653
	Operating Leases	654
	Financial Leases	654
21.2	Accounting and Leasing	656
21.3	Taxes, the IRS, and Leases	657
21.4	The Cash Flows of Leasing	658
	A Note about Taxes	660
21.5	A Detour for Discounting and Debt Capacity with Corporate Taxes	660
	Present Value of Riskless Cash Flows	660
	Optimal Debt Level and Riskless Cash Flows	661
21.6	NPV Analysis of the Lease-versus-Buy Decision	662
	The Discount Rate	662
21.7	Debt Displacement and Lease Valuation	663
	The Basic Concept of Debt Displacement	663
	Optimal Debt Level in the Xomox Example	664
21.8	Does Leasing Ever Pay? The Base Case	666

21.9	Reasons for Leasing	667	22.11	Investment in Real Projects and Options	708
	Good Reasons for Leasing	667		Summary and Conclusions	711
	Bad Reasons for Leasing	670		Concept Questions	711
21.10	Some Unanswered Questions	671		Questions and Problems	712
	Are the Uses of Leases and Debt Complementary?	671		Excel Master It! Problem	719
	Why Are Leases Offered by both Manufacturers and Third-Party Lessors?	671		Mini Case: Clissold Industries Options	720
	Why Are Some Assets Leased More Than Others?	671			
	Summary and Conclusions	672			
	Concept Questions	672			
	Questions and Problems	673			
	Mini Case: The Decision to Lease or Buy at Warf Computers	676			
	Appendix 21A: APV Approach to Leasing	676			

PART VI Options, Futures, and Corporate Finance

CHAPTER 22

Options and Corporate Finance **677**

22.1	Options	677
22.2	Call Options	678
	The Value of a Call Option at Expiration	678
22.3	Put Options	679
	The Value of a Put Option at Expiration	680
22.4	Selling Options	681
22.5	Option Quotes	682
22.6	Combinations of Options	683
22.7	Valuing Options	686
	Bounding the Value of a Call	687
	The Factors Determining Call Option Values	688
	A Quick Discussion of Factors Determining Put Option Values	691
22.8	An Option Pricing Formula	691
	A Two-State Option Model	692
	The Black-Scholes Model	694
22.9	Stocks and Bonds as Options	699
	The Firm Expressed in Terms of Call Options	700
	The Firm Expressed in Terms of Put Options	701
	A Resolution of the Two Views	702
	A Note about Loan Guarantees	703
22.10	Options and Corporate Decisions: Some Applications	704
	Mergers and Diversification	704
	Options and Capital Budgeting	706

CHAPTER 23

Options and Corporate Finance: Extensions and Applications **722**

23.1	Executive Stock Options	722
	Why Options?	722
	Valuing Executive Compensation	723
23.2	Valuing a Startup	725
23.3	More about the Binomial Model	728
	Heating Oil	728
23.4	Shutdown and Reopening Decisions	734
	Valuing a Gold Mine	734
	The Abandonment and Opening Decisions	735
	Valuing the Simple Gold Mine	736
	Summary and Conclusions	741
	Concept Questions	741
	Questions and Problems	742
	Mini Case: Exotic Cuisine's Employee Stock Options	744

CHAPTER 24

Warrants and Convertibles **745**

24.1	Warrants	745
24.2	The Difference between Warrants and Call Options	746
	How the Firm Can Hurt Warrant Holders	749
24.3	Warrant Pricing and the Black-Scholes Model	749
24.4	Convertible Bonds	750
24.5	The Value of Convertible Bonds	751
	Straight Bond Value	751
	Conversion Value	752
	Option Value	753
24.6	Issuing Warrants and Convertibles in Efficient Markets	754
	Convertible Debt versus Straight Debt	754
	Convertible Debt versus Common Stock	755
	The "Free Lunch" Story	756
	The "Expensive Lunch" Story	757
	A Reconciliation	757
24.7	Why Are Warrants and Convertibles Issued?	757
	Matching Cash Flows	757
	Risk Synergy	758
	Agency Costs	758
	Backdoor Equity	759

24.8 Conversion Policy	759
Summary and Conclusions	760
Concept Questions	761
Questions and Problems	762
Mini Case: S&S Air's Convertible Bond	764

CHAPTER 25

Derivatives and Hedging Risk 766

25.1 Derivatives, Hedging, and Risk	766
Should Firms Always Hedge Away Risks?	767
25.2 Forward Contracts	768
25.3 Futures Contracts	769
25.4 Hedging	773
25.5 Interest Rate Futures Contracts	775
Pricing of Treasury Bonds	775
Pricing of Forward Contracts	775
Futures Contracts	777
Hedging in Interest Rate Futures	778
25.6 Duration Hedging	781
The Case of Zero Coupon Bonds	782
The Case of Two Bonds with the Same Maturity but with Different Coupons	782
Duration	784
Matching Liabilities with Assets	785
25.7 Swap Contracts	788
Interest Rate Swaps	788
Currency Swaps	790
Credit Default Swaps	790
Exotics	791
25.8 Actual Use of Derivatives	792
Summary and Conclusions	794
Concept Questions	794
Questions and Problems	796
Mini Case: Williamson Mortgage, Inc.	798

PART VII Short-Term Finance

CHAPTER 26

Short-Term Finance and Planning 799

26.1 Tracing Cash and Net Working Capital	800
26.2 The Operating Cycle and the Cash Cycle	801
Defining the Operating and Cash Cycles	802
The Operating Cycle and the Firm's Organization Chart	803
Calculating the Operating and Cash Cycles	803
Interpreting the Cash Cycle	807
A Look at Operating and Cash Cycles	807

26.3 Some Aspects of Short-Term Financial Policy 808

The Size of the Firm's Investment in Current Assets	808
Alternative Financing Policies for Current Assets	811
Which Is Best?	813

26.4 Cash Budgeting 814

Cash Outflow	815
The Cash Balance	815

26.5 The Short-Term Financial Plan 816

Unsecured Loans	816
Secured Loans	816
Other Sources	817
Summary and Conclusions	817
Concept Questions	818
Questions and Problems	819
Excel Master It! Problem	826
Mini Case: Keafer Manufacturing	827
Working Capital Management	827

CHAPTER 27

Cash Management 829

27.1 Reasons for Holding Cash 829

The Speculative and Precautionary Motives	829
The Transaction Motive	830
Compensating Balances	830
Costs of Holding Cash	830

27.2 Understanding Float 831

Disbursement Float	831
Collection Float and Net Float	832
Float Management	833
Electronic Data Interchange and Check 21: The End of Float?	836

27.3 Cash Collection and Concentration 837

Components of Collection Time	837
Cash Collection	838
Lockboxes	838
Cash Concentration	839
Accelerating Collections: An Example	840

27.4 Managing Cash Disbursements 842

Increasing Disbursement Float	842
Controlling Disbursements	843

27.5 Investing Idle Cash 844

Temporary Cash Surpluses	844
Characteristics of Short-Term Securities	845
Some Different Types of Money Market Securities	845
Summary and Conclusions	846

Concept Questions	847
Questions and Problems	848
Mini Case: Cash Management at Richmond Corporation	850
Appendix 27A: Determining the Target Cash Balance	850
Appendix 27B: Adjustable Rate Preferred Stock, Auction Rate Preferred Stock, and Floating-Rate Certificates of Deposit	850

CHAPTER 28

Credit and Inventory Management 851

28.1 Credit and Receivables	851
Components of Credit Policy	852
The Cash Flows from Granting Credit	852
The Investment in Receivables	852
28.2 Terms of the Sale	853
The Basic Form	853
The Credit Period	853
Cash Discounts	855
Credit Instruments	856
28.3 Analyzing Credit Policy	857
Credit Policy Effects	857
Evaluating a Proposed Credit Policy	857
28.4 Optimal Credit Policy	859
The Total Credit Cost Curve	860
Organizing the Credit Function	861
28.5 Credit Analysis	861
When Should Credit Be Granted?	861
Credit Information	863
Credit Evaluation and Scoring	864
28.6 Collection Policy	864
Monitoring Receivables	864
Collection Effort	865
28.7 Inventory Management	865
The Financial Manager and Inventory Policy	866
Inventory Types	866
Inventory Costs	866
28.8 Inventory Management Techniques	867
The ABC Approach	867
The Economic Order Quantity Model	867
Extensions to the EOQ Model	872
Managing Derived-Demand Inventories	872
Summary and Conclusions	874
Concept Questions	875
Questions and Problems	876
Mini Case: Credit Policy at Braam Industries	879
Appendix 28A: More about Credit Policy Analysis	879

PART VIII Special Topics

CHAPTER 29

Mergers, Acquisitions, and Divestitures 880

29.1 The Basic Forms of Acquisitions	880
Merger or Consolidation	880
Acquisition of Stock	881
Acquisition of Assets	881
A Classification Scheme	882
A Note about Takeovers	882
29.2 Synergy	883
29.3 Sources of Synergy	884
Revenue Enhancement	884
Cost Reduction	885
Tax Gains	887
Reduced Capital Requirements	889
29.4 Two Financial Side Effects of Acquisitions	890
Earnings Growth	890
Diversification	891
29.5 A Cost to Stockholders from Reduction in Risk	892
The Base Case	892
Both Firms Have Debt	892
How Can Shareholders Reduce Their Losses from the Coinsurance Effect?	894
29.6 The NPV of a Merger	894
Cash	894
Common Stock	896
Cash versus Common Stock	897
29.7 Friendly versus Hostile Takeovers	898
29.8 Defensive Tactics	900
Deterring Takeovers before Being in Play	900
Deterring a Takeover after the Company Is in Play	901
29.9 Have Mergers Added Value?	903
Returns to Bidders	905
Target Companies	906
The Managers versus the Stockholders	906
29.10 The Tax Forms of Acquisitions	908
29.11 Accounting for Acquisitions	910
29.12 Going Private and Leveraged Buyouts	911
29.13 Divestitures	912
Sale	912
Spin-Off	912
Carve-Out	913
Tracking Stocks	913
Summary and Conclusions	914
Concept Questions	914
Questions and Problems	915
Mini Case: The Birdie Golf–Hybrid Golf Merger	921

CHAPTER 30

Financial Distress

923

30.1	What Is Financial Distress?	923
30.2	What Happens in Financial Distress?	925
30.3	Bankruptcy Liquidation and Reorganization	927
	Bankruptcy Liquidation	927
	Bankruptcy Reorganization	929
30.4	Private Workout or Bankruptcy: Which Is Best?	932
	The Marginal Firm	933
	Holdouts	933
	Complexity	933
	Lack of Information	933
30.5	Prepackaged Bankruptcy	933
30.6	Predicting Corporate Bankruptcy: The Z-Score Model	935
	Summary and Conclusions	936
	Concept Questions	937
	Questions and Problems	937

CHAPTER 31

International Corporate Finance

939

31.1	Terminology	940
31.2	Foreign Exchange Markets and Exchange Rates	941
	Exchange Rates	942
31.3	Purchasing Power Parity	946
	Absolute Purchasing Power Parity	946
	Relative Purchasing Power Parity	947
31.4	Interest Rate Parity, Unbiased Forward Rates, and the International Fisher Effect	949

	Covered Interest Arbitrage	949
	Interest Rate Parity	950
	Forward Rates and Future Spot Rates	951
	Putting It All Together	952
31.5	International Capital Budgeting	953
	Method 1: The Home Currency Approach	954
	Method 2: The Foreign Currency Approach	955
	Unremitted Cash Flows	955
	The Cost of Capital for International Firms	956
31.6	Exchange Rate Risk	956
	Short-Term Exposure	956
	Long-Term Exposure	957
	Translation Exposure	958
	Managing Exchange Rate Risk	959
31.7	Political Risk	959
	The Tax Cuts and Jobs Act of 2017	959
	Managing Political Risk	960
	Summary and Conclusions	961
	Concept Questions	961
	Questions and Problems	963
	Excel Master It! Problem	965
	Mini Case: East Coast Yachts Goes International	966

	<i>Appendix A: Mathematical Tables</i>	967
	<i>Appendix B: Solutions to Selected End-of-Chapter Problems</i>	976
	<i>Appendix C: Using the HP 10B and TI BA II Plus Financial Calculators</i>	979
	<i>Glossary</i>	983
	<i>Name Index</i>	991
	<i>Subject Index</i>	994