Detailed Contents

PART 1 INTRODUCTION

Chapter 1 The Corporation 34

1.1 The Four Types of Firms 35 Sole Proprietorships 35 Partnerships 36 Limited Liability Companies 37 Corporations 37 Tax Implications for Corporate Entities 38 Corporate Taxation Around the World 39 1.2 Ownership Versus Control of **Corporations** 39

The Corporate Management Team 39 INTERVIEW with David Viniar 40 The Financial Manager 41 GLOBAL FINANCIAL CRISIS The Dodd-Frank Act 42 The Goal of the Firm 42 The Firm and Society 43 Ethics and Incentives within Corporations 43 **GLOBAL FINANCIAL CRISIS** The Dodd-Frank Act on Corporate Compensation and Governance 44 Citizens United v. Federal Election Commission 44 Airlines in Bankruptcy 46 1.3 The Stock Market 46 Primary and Secondary Stock Markets 47 Traditional Trading Venues 47 INTERVIEW with Frank Hathewav 48 New Competition and Market Changes 49 Dark Pools 50 MyFinanceLab 51 . Key Terms 51 Further Reading 52 Problems 52 Chapter 2 Introduction to Financial Statement Analysis 55

> 2.1 Firms' Disclosure of Financial Information 56 Preparation of Financial Statements 56

- International Financial Reporting Standards 56 INTERVIEW with Buth Porat 57 Types of Financial Statements 58
- 2.2 The Balance Sheet 58 Assets 59 Liabilities 60 Stockholders' Equity 61 Market Value Versus Book Value 61 Enterprise Value 62

2.3 The Income Statement 62 Earnings Calculations 63

- 2.4 The Statement of Cash Flows 64 Operating Activity 65 Investment Activity 66 Financing Activity 66
- 2.5 Other Financial Statement Information 67 Statement of Stockholders' Equity 67 Management Discussion and Analysis 68 Notes to the Financial

Statements 68

2.6 Financial Statement Analysis 69

Profitability Ratios 69 Liquidity Ratios 70 Working Capital Ratios 71 Interest Coverage Ratios 72 Leverage Ratios 73 Valuation Ratios 75 COMMON MISTAKE Mismatched Ratios 75 Operating Returns 76 The DuPont Identity 78

2.7 Financial Reporting in Practice 80

Enron 80 WorldCom 80 Sarbanes-Oxley Act 81 GLOBAL FINANCIAL CRISIS Bernard Madoff's Ponzi Scheme 82 Dodd-Frank Act 82

MyFinanceLab 83 # Key Terms 84 # Further Reading 85 m Problems 85 m Data Case 92

Conte	ents	

6

198

Chapt	er 3	Financial Decision Making and the Law of One Price 93		Rule 2: Mo in Time 11 Rule 3: Mo
	3.1	Valuing Decisions 94 Analyzing Costs and Benefits 94 Using Market Prices to Determine Cash 95 Image: When Competitive Market Prices Are Not Available 97	4.3 4.4	in Time 1: Rule of Applying th Valuing a S Calculating USING
	3.2	Interest Rates and the Time Value of Money 97 The Time Value of Money 97 The Interest Rate: An Exchange Rate Across Time 97	4.5	Values in Perpetuities Perpetuities Historica COMMO Too Mar
- 100 - 100 - 100 - 100 - 100	3.3	Present Value and the NPV DecisionRule100Net Present Value100The NPV Decision Rule101NPV and Cash Needs103	4.6	Annuities Formula Growing Ca Using an A
	3.4	Arbitrage and the Law of One Price 104	4.7	or Calculat
		Arbitrage 104 Law of One Price 105	4.8	Solving for
	3.5	No-Arbitrage and Security Prices 105 Valuing a Security with the Law of One Price 105	4.9	The Interna USING Excel's I
		An Old Joke 109 The NPV of Trading Securities and Firm Decision Making 109	14	MyFinancel Further Rea Data Case
		Valuing a Portfolio 110 GLOBAL FINANCIAL CRISIS Liquidity and the Informational Role of Prices 111	dix	Solving for
		Arbitrage in Markets 112 Chapte	r 5	Interest I
		Where Do We Go from Here? 113 MyFinanceLab 114 III Key Terms 115 III Further Reading 115 III Problems 115	5.1	Interest Ra Adjustmen The Effectiv
Арра	endix	The Price of Risk119Risky Versus Risk-Free Cash Flows119Arbitrage with Transactions Costs124		COMMC Discount Formula Annual Perce
PAR	тэ		5.2	Application and Loans
iAn	12	TIME, MONEY, AND INTEREST RATES	5.3	The Detern
Chapt	er 4	The Time Value of Money 130		Rates 181 GLOBAL Rates an
	4.1	The Timeline 131		Inflation and

4.2 The Three Rules of Time Travel 132 Rule 1: Comparing and Combining Values 132

wing Cash Flows Forward 33 ving Cash Flows Back 34 72 135 e Rules of Time Travel 136 Stream of Cash Flows 138 the Net Present Value 141 **EXCEL** Calculating Present n Excel 142 es and Annuities 143 s 143 al Examples of Perpetuities 144 ON MISTAKE Discounting One ny Times 146 146 for an Annuity Due 149 ash Flows 149 Annuity Spreadsheet tor 154 al Cash Flows 156 the Cash Payments 157 al Rate of Return 160 EXCEL IRR Function 163 Lab 164 🖩 Key Terms 165 🛱 iding 166 🖩 Problems 166 🖩 172 the Number of Periods 173 Rates 175

te Quotes and nts 176

ve Annual Rate 176 ON MISTAKE Using the Wrong

t Rate in the Annuity 177 entage Rates 178

- n: Discount Rates 180
- ninants of Interest
 - FINANCIAL CRISIS Teaser nd Subprime Loans 182 Real Versus Nominal Rates 182 Investment and Interest Rate Policy 183 The Yield Curve and Discount Rates 184

The Yield Curve and the Economy 186

- COMMON MISTAKE Using the Annuity Formula When Discount Rates Vary by Maturity 186
- INTERVIEW with Kevin M. Warsh 188

5.4 Risk and Taxes 189

Risk and Interest Rates 190 After-Tax Interest Rates 191

5.5 The Opportunity Cost of Capital 192 COMMON MISTAKE States Dig a \$3 Trillion Hole by Discounting at the Wrong Rate 193

MyFinanceLab 194
 Key Terms 195
 Further Reading 195
 Problems 195
 Data Case 200

AppendixContinuous Rates
and Cash Flows202Discount Rates for a Continuously
Compounded APR202Continuously Arriving Cash Flows202

Chapter 6 Valuing Bonds 205

6.1 Bond Cash Flows, Prices, and Yields 206
Bond Terminology 206
Zero-Coupon Bonds 206
GLOBAL FINANCIAL CRISIS Negative Bond Yields 208
Coupon Bonds 209

6.2 Dynamic Behavior of Bond Prices 211

- Discounts and Premiums 211 Time and Bond Prices 212 Interest Rate Changes and Bond Prices 214
 - Clean and Dirty Prices for Coupon Bonds 215

6.3 The Yield Curve and Bond Arbitrage 217

Replicating a Coupon Bond 217 Valuing a Coupon Bond Using Zero-Coupon Yields 218 Coupon Bond Yields 219 Treasury Yield Curves 220

6.4 Corporate Bonds 220

Corporate Bond Yields 221 Are Treasuries Really Default-Free Securities? 221 Bond Ratings 223 Corporate Yield Curves 224

- 6.5 Sovereign Bonds 224
 - GLOBAL FINANCIAL CRISIS The Credit Crisis and Bond Yields 225
 - GLOBAL FINANCIAL CRISIS
 European Sovereign Debt Yields:
 A Puzzle 227
 - INTERVIEW with Carmen M. Reinhart 228

MyFinanceLab 229
Key Terms 230
Further Reading 231
Problems 231
Data Case 235
Case Study 236

Appendix Forward Interest Rates 238 Computing Forward Rates 238 Computing Bond Yields from Forward Rates 239

PART 3 VALUING PROJECTS AND FIRMS

Chapter 7 Investment Decision Rules 244

7.1 NPV and Stand-Alone Projects 245 Applying the NPV Rule 245

The NPV Profile and IRR 245 Alternative Rules Versus the NPV Rule 246

INTERVIEW with Dick Grannis 247

- 7.2 The Internal Rate of Return Rule 248
 Applying the IRR Rule 248
 Pitfall #1: Delayed Investments 248
 Pitfall #2: Multiple IRRs 249
 Image: COMMON MISTAKE
 IRR Versus the IRR Rule 251
 Pitfall #3: Nonexistent IRR 251
- 7.3 The Payback Rule 252
 Applying the Payback Rule 252
 Payback Rule Pitfalls in Practice 253
 Why Do Rules Other Than the NPV Rule Persist? 254
- 7.4 Choosing Between Projects 254 NPV Rule and Mutually Exclusive Investments 254 IRR Rule and Mutually Exclusive Investments 255 The Incremental IRR 256
 - When Can Returns Be Compared? 257
 - COMMON MISTAKE IRR and Project Financing 259

Contents 1 7.5 Project Selection with Resource Constraints 259 Evaluating Projects with Different Resource Requirements 259 Profitability Index 260 Shortcomings of the Profitability Index 262 MyFinanceLab 262 Key Terms 263 Further Reading 263 Problems 263 Data Case 269 Computing the NPV Profile Using Appendix Excel's Data Table Function 270 **Chapter 8 Fundamentals of Capital Budgeting 271** 8.1 Forecasting Earnings 272 Revenue and Cost Estimates 272 Incremental Earnings Forecast 273 Indirect Effects on Incremental Earnings 275 COMMON MISTAKE The Opportunity Cost of an Idle Asset 276 Sunk Costs and Incremental Earnings 277 COMMON MISTAKE The Sunk Cost Fallacy 277 Real-World Complexities 278 8.2 Determining Free Cash Flow and NPV 279 Calculating Free Cash Flow from Earnings 279 Calculating Free Cash Flow Directly 281 Calculating the NPV 282 USING EXCEL Capital Budgeting Using a Spreadsheet Program 283 8.3 Choosing Among Alternatives 284 Evaluating Manufacturing Alternatives 284 Comparing Free Cash Flows for Cisco's Alternatives 285 8.4 Further Adjustments to Free Cash Flow 286 GLOBAL FINANCIAL CRISIS The American Recovery and Reinvestment Act of 2009 290

8

- 8.5 Analyzing the Project 290
 Break-Even Analysis 290
 Sensitivity Analysis 291
 INTERVIEW with David Holland 293
 Scenario Analysis 294
 □ USING EXCEL Project Analysis
 - Using Excel 295

MyFinanceLab 296 a Key Terms 298 a Further Reading 298 a Problems 298 a Data Case 305

Appendix MACRS Depreciation 307

Chapter 9 Valuing Stocks 309

9.1 The Dividend-Discount Model 310 A One-Year Investor 310 Dividend Yields, Capital Gains, and Total Returns 311 The Mechanics of a Short Sale 312 A Multiyear Investor 313 The Dividend-Discount Model Equation 314

9.2 Applying the Dividend-Discount Model 314

Constant Dividend Growth 314 Dividends Versus Investment and Growth 315

 John Burr Williams' Theory of Investment Value 316
 Changing Growth Rates 318
 Limitations of the Dividend-Discount Model 320

9.3 Total Payout and Free Cash Flow Valuation Models 320

Share Repurchases and the Total Payout Model 320 The Discounted Free Cash Flow Model 322

9.4 Valuation Based on Comparable Firms 326

Valuation Multiples 326 Limitations of Multiples 328 Comparison with Discounted Cash Flow Methods 329 Stock Valuation Techniques: The Final Word 330

INTERVIEW with Douglas Kehring 331

9.5 Information, Competition, and Stock Prices 332

Information in Stock Prices 332 Competition and Efficient Markets 333 Lessons for Investors and Corporate Managers 335

Kenneth Cole Productions—What Happened? 337

The Efficient Markets Hypothesis Versus No Arbitrage 338

PART 4 RISK AND RETURN

Chapter 10 Capital Markets and the Pricing of Risk 350 10.1 Risk and Return: Insights from 89 Years of Investor History 351 10.2 Common Measures of Risk and Return 354 Probability Distributions 354 Expected Return 354 Variance and Standard Deviation 355 10.3 Historical Returns of Stocks and Bonds 357 Computing Historical Returns 357 Average Annual Returns 359 The Variance and Volatility of Returns 361 Estimation Error: Using Past Returns to Predict the Future 362 Arithmetic Average Returns Versus Compound Annual Returns 364 10.4 The Historical Trade-Off Between Risk and Return 364 The Returns of Large Portfolios 365 The Returns of Individual Stocks 366 10.5 Common Versus Independent Risk 367 Theft Versus Earthquake Insurance: An Example 367 The Role of Diversification 368 10.6 Diversification in Stock Portfolios 369 Firm-Specific Versus Systematic Risk 370 No Arbitrage and the Risk Premium 371 GLOBAL FINANCIAL CRISIS **Diversification Benefits During** Market Crashes 373 COMMON MISTAKE A Fallacy of Long-Run Diversification 374 10.7 Measuring Systematic Risk 375 Identifying Systematic Risk: The Market Portfolio 375 Sensitivity to Systematic Risk: Beta 375 10.8 Beta and the Cost of Capital 378 Estimating the Risk Premium 378 COMMON MISTAKE Beta Versus Volatility 378 The Capital Asset Pricing Model 380 MyFinanceLab 380 m Key Terms 382 m

Further Reading 382 Problems 382

Data Case 387

Chapter 11 Optimal Portfolio Choice and the Capital Asset Pricing Model 389

- 11.1 The Expected Return of a Portfolio 390
- 11.2 The Volatility of a Two-Stock Portfolio 391

Combining Risks 391 Determining Covariance and Correlation 392

COMMON MISTAKE Computing Variance, Covariance, and Correlation in Excel 394 Computing a Portfolio's Variance

and Volatility 395

11.3 The Volatility of a Large Portfolio 397

Large Portfolio Variance 397 Diversification with an Equally Weighted Portfolio 398 INTERVIEW with John Powers 400 Diversification with General

11.4 Risk Versus Return: Choosing an Efficient Portfolio 401

Portfolios 401

Efficient Portfolios with Two Stocks 402 The Effect of Correlation 404 Short Sales 405 Efficient Portfolios with Many Stocks 406

- NOBEL PRIZES Harry Markowitz and James Tobin 407
- 11.5 Risk-Free Saving and Borrowing 409

Investing in Risk-Free Securities 409 Borrowing and Buying Stocks on Margin 410 Identifying the Tangent Portfolio 411

11.6 The Efficient Portfolio and Required Returns 413

> Portfolio Improvement: Beta and the Required Return 413 Expected Returns and the Efficient Portfolio 415

- **11.7 The Capital Asset Pricing Model 417** The CAPM Assumptions 417 Supply, Demand, and the Efficiency of the Market Portfolio 418 Optimal Investing: The Capital Market Line 418
- 11.8 Determining the Risk Premium 419 Market Risk and Beta 419
 - NOBEL PRIZE William Sharpe on the CAPM 421

Contents

The Security Market Line 422 Beta of a Portfolio 422 Summary of the Capital Asset Pricing Model 424

MyFinanceLab 424
Key Terms 427
Further Reading 427 Problems 428
Data Case 434

AppendixThe CAPM with Differing
Interest Rates436The Efficient Frontier with Differing Saving
and Borrowing Rates436The Security Market Line with Differing
Interest Rates436

Chapter 12 Estimating the Cost of Capital 439

- 12.1 The Equity Cost of Capital 440
- 12.2 The Market Portfolio 441
 Constructing the Market Portfolio 441
 Market Indexes 441
 Value-Weighted Portfolios and Rebalancing 442
 - The Market Risk Premium 443

12.3 Beta Estimation 445 Using Historical Returns 445 Identifying the Best-Fitting Line 447 Using Linear Regression 448

Why Not Estimate Expected Returns Directly? 449

12.5 A Project's Cost of Capital 452 All-Equity Comparables 452 Levered Firms as Comparables 453 The Unlevered Cost of Capital 453 Industry Asset Betas 455

- 12.6 Project Risk Characteristics and Financing 457
 - Differences in Project Risk 457 COMMON MISTAKE Adjusting for Execution Risk 459
 - Financing and the Weighted Average Cost of Capital 459
 - INTERVIEW with Shelagh Glaser 460
 - COMMON MISTAKE Using a Single Cost of Capital in Multi-Divisional Firms 461

12.7 Final Thoughts on Using the CAPM 462

MyFinanceLab 463
 Key Terms 465
 Further Reading 465
 Problems 466
 Data Case 470

Appendix Practical Considerations When Forecasting Beta 471 Time Horizon 471

S.

57

tĊ

The Market Proxy 471

- Beta Variation and Extrapolation 471 Outliers 472
- COMMON MISTAKE Changing the Index to Improve the Fit 473
- USING EXCEL Estimating Beta Using Excel 474
- Other Considerations 475

Chapter 13 Investor Behavior and Capital Market Efficiency 477

- **13.1 Competition and Capital Markets 478** Identifying a Stock's Alpha 478 Profiting from Non-Zero Alpha Stocks 479
- **13.2 Information and Rational Expectations 480** Informed Versus Uninformed Investors 480 Rational Expectations 481

13.3 The Behavior of Individual Investors 482

Underdiversification and Portfolio Biases 482 Excessive Trading and Overconfidence 483

Individual Behavior and Market Prices 485

13.4 Systematic Trading Biases 485 Hanging on to Losers and the Disposition Effect 485

 NOBEL PRIZE Kahneman and Tversky's Prospect Theory 486
 Investor Attention, Mood, and Experience 486
 Herd Behavior 487
 Implications of Behavioral Biases 487

13.5 The Efficiency of the Market Portfolio 488

Trading on News or

Recommendations 488 NOBEL PRIZE The 2013 Prize: An Enigma? 490

The Performance of Fund Managers 490 The Winners and Losers 493

13.6 Style-Based Techniques and the Market Efficiency Debate 494

Size Effects 494 INTERVIEW with Jonathan Clements 496

Momentum 498

Market Efficiency and the Efficiency of the Market Portfolio 499

Implications of Positive-Alpha Trading Strategies 499

13.7 Multifactor Models of Risk 501 Using Factor Portfolios 502 Selecting the Portfolios 503 The Cost of Capital with Fama-French-Carhart Factor Specification 504

13.8Methods Used in Practice506Financial Managers506Investors507

MyFinanceLab 508
 Key Terms 510
 Further Reading 510
 Problems 511

Appendix Building a Multifactor Model 517

PART 5 CAPITAL STRUCTURE

Chapter 14 Capital Structure in a Perfect Market 520

14.1 Equity Versus Debt Financing 521 Financing a Firm with Equity 521 Financing a Firm with Debt and Equity 522 The Effect of Leverage on Risk and Return 523

14.2 Modigliani-Miller I: Leverage, Arbitrage, and Firm Value 525

MM and the Law of One Price 525 Homemade Leverage 525 MM and the Real World 526 The Market Value Balance Sheet 527 Application: A Leveraged Recapitalization 528

14.3 Modigliani-Miller II: Leverage, Risk, and the Cost of Capital 530

Leverage and the Equity Cost of Capital 530 Capital Budgeting and the Weighted Average Cost of Capital 531

COMMON MISTAKE Is Debt Better Than Equity? 534 Computing the WACC with Multiple Securities 534

- Levered and Unlevered Betas 534
- NOBEL PRIZE Franco Modigliani and Merton Miller 536

14.4 Capital Structure Fallacies 537

Leverage and Earnings per Share 537

GLOBAL FINANCIAL CRISIS Bank Capital Regulation and the ROE Fallacy 539 Equity Issuances and Dilution 540

14.5 MM: Beyond the Propositions 541

Chapter 15 Debt and Taxes 551

15.1 The Interest Tax Deduction 552

15.2 Valuing the Interest Tax Shield 554 The Interest Tax Shield and Firm Value 554

🕅 Pizza and Taxes 555

The Interest Tax Shield with Permanent Debt 555

The Weighted Average Cost of Capital with Taxes 556

The Repatriation Tax: Why Some Cash-Rich Firms Borrow 557

The Interest Tax Shield with a Target Debt-Equity Ratio 558

15.3 Recapitalizing to Capture the Tax Shield 560

The Tax Benefit 560 The Share Repurchase 561 No Arbitrage Pricing 561 Analyzing the Recap: The Market Value Balance Sheet 562

15.4 Personal Taxes 563

Including Personal Taxes in the Interest Tax Shield 563 Valuing the Interest Tax Shield with Personal Taxes 566 Determining the Actual Tax Advantage of Debt 567 Cutting the Dividend Tax Rate 567

15.5 Optimal Capital Structure with Taxes 568 Do Firms Prefer Debt? 568 Limits to the Tax Benefit of Debt 571

INTERVIEW with Andrew Balson 572

Contents

Growth and Debt 573 Other Tax Shields 574 The Low Leverage Puzzle 574 Employee Stock Options 576

MyFinanceLab 576
 Key Terms 577
 Further Reading 577
 Problems 578
 Data Case 582

Chapter 16 Financial Distress, Managerial Incentives, and Information 583

16.1 Default and Bankruptcy in a Perfect Market 584 Armin Industries: Leverage and the Risk of Default 584

Bankruptcy and Capital Structure 585

16.2 The Costs of Bankruptcy and Financial Distress 586 The Bankruptcy Code 587 Direct Costs of Bankruptcy 587

Indirect Costs of Financial Distress 588

- GLOBAL FINANCIAL CRISIS The Chrysler Prepack 591
- 16.3 Financial Distress Costs and Firm Value 592

Armin Industries: The Impact of Financial Distress Costs 592 Who Pays for Financial Distress Costs? 592

- 16.4 Optimal Capital Structure: The Trade-Off Theory 594
 The Present Value of Financial Distress Costs 594
 Optimal Leverage 595
- 16.5 Exploiting Debt Holders: The Agency Costs of Leverage 597

Excessive Risk-Taking and Asset
Substitution 597
Debt Overhang and Under-Investment 598
GLOBAL FINANCIAL CRISIS Bailouts, Distress Costs, and Debt Overhang 599
Agency Costs and the Value of Leverage 600
The Leverage Ratchet Effect 601
Debt Maturity and Covenants 602
Why Do Firms Go Bankrupt? 602
Motivating Managers: The Agency

16.6 Motivating Managers: The Agency Benefits of Leverage 603 Concentration of Ownership 604 Reduction of Wasteful Investment 604

- Excessive Perks and Corporate Scandals 605
- GLOBAL FINANCIAL CRISIS Moral Hazard, Government Bailouts, and the Appeal of Leverage 606 Leverage and Commitment 607
- 16.7 Agency Costs and the Trade-Off Theory 607

The Optimal Debt Level 608 Debt Levels in Practice 609

16.8 Asymmetric Information and Capital Structure 609

> Leverage as a Credible Signal 609 Issuing Equity and Adverse Selection 611

 NOBEL PRIZE The 2001 Nobel Prize in Economics 613
 Implications for Equity Issuance 613

Implications for Capital Structure 614

16.9 Capital Structure: The Bottom Line 617

MyFinanceLab 618 # Key Terms 620 # Further Reading 620 # Problems 620

Chapter 17 Payout Policy 629

17.1 Distributions to Shareholders 630 Dividends 630 Share Repurchases 632

17.2 Comparison of Dividends and Share Repurchases 633

Alternative Policy 1: Pay Dividend with Excess Cash 633 Alternative Policy 2: Share Repurchase

- (No Dividend) 634
- COMMON MISTAKE Repurchases and the Supply of Shares 636

Alternative Policy 3: High Dividend (Equity Issue) 636

Modigliani-Miller and Dividend Policy Irrelevance 637

 COMMON MISTAKE The Bird in the Hand Fallacy 638
 Dividend Policy with Perfect Capital Markets 638

17.3 The Tax Disadvantage of Dividends 638

Taxes on Dividends and Capital Gains 639 Optimal Dividend Policy with Taxes 640

17.4 Dividend Capture and Tax Clienteles 642

The Effective Dividend Tax Rate 642 Tax Differences Across Investors 643 Clientele Effects 644 INTERVIEW with John Connors 645

17.5 Payout Versus Retention of Cash 647 Retaining Cash with Perfect Capital Markets 648 Taxes and Cash Retention 649 Adjusting for Investor Taxes 650 Issuance and Distress Costs 651 Agency Costs of Retaining Cash 652

17.6 Signaling with Payout Policy 654

Dividend Smoothing 654 Dividend Signaling 655 Royal & SunAlliance's Dividend Cut 656 Signaling and Share Repurchases 656

17.7 Stock Dividends, Splits, and Spin-Offs 658
Stock Dividends and Splits 658
Spin-Offs 660
■ Berkshire Hathaway's A & B Shares 661

> MyFinanceLab 662 # Key Terms 663 # Further Reading 664 # Problems 664 # Data Case 668

PART 6 ADVANCED VALUATION

Chapter 18 Capital Budgeting and Valuation with Leverage 672

- 18.1 Overview of Key Concepts 673
- 18.2 The Weighted Average Cost of Capital Method 674
 INTERVIEW with Zane Rowe 675 Using the WACC to Value a Project 676 Summary of the WACC Method 677 Implementing a Constant Debt-Equity Ratio 678
- 18.3 The Adjusted Present Value Method 680 The Unlevered Value of the Project 680 Valuing the Interest Tax Shield 681 Summary of the APV Method 682
- **18.4 The Flow-to-Equity Method 684** Calculating the Free Cash Flow to Equity 684

Valuing Equity Cash Flows 685 What Counts as "Debt"? 686 Summary of the Flow-to-Equity Method 686

18.5 Project-Based Costs of Capital 687 Estimating the Unlevered Cost of Capital 688 Project Leverage and the Equity Cost of Capital 688

Determining the Incremental Leverage of a Project 690

COMMON MISTAKE Re-Levering the WACC 690

- **18.6APV with Other Leverage Policies692**Constant Interest Coverage Ratio692Predetermined Debt Levels693A Comparison of Methods695
- 18.7 Other Effects of Financing 695

 Issuance and Other Financing Costs 695
 Security Mispricing 696
 Financial Distress and Agency Costs 697
 GLOBAL FINANCIAL CRISIS Government Loan Guarantees 698

18.8 Advanced Topics in Capital Budgeting 698

> Periodically Adjusted Debt 699 Leverage and the Cost of Capital 701 The WACC or FTE Method with Changing Leverage 703 Personal Taxes 704

MyFinanceLab 706 ■ Key Terms 708 ■ Further Reading 708 ■ Problems 709 ■ Data Case 715

Appendix Foundations and Further Details 717 Deriving the WACC Method 717

The Levered and Unlevered Cost of Capital 718 Solving for Leverage and Value Simultaneously 719 The Residual Income and Economic Value Added Valuation Methods 721

Chapter 19 Valuation and Financial Modeling: A Case Study 723

- 19.1 Valuation Using Comparables 724
- **19.2 The Business Plan 726** Operational Improvements 726 Capital Expenditures: A Needed Expansion 727

Working Capital Management 728 Capital Structure Changes: Levering Up 728 19.3 Building the Financial Model 729 Forecasting Earnings 729 INTERVIEW with Joseph L. Rice, III 730 Working Capital Requirements 732 Forecasting Free Cash Flow 733 USING EXCEL Summarizing Model Outputs 735 The Balance Sheet and Statement of Cash Flows (Optional) 736 III USING EXCEL Auditing Your Financial Model 738 19.4 Estimating the Cost of Capital 739 CAPM-Based Estimation 739 Unlevering Beta 740 Ideko's Unlevered Cost of Capital 740 19.5 Valuing the Investment 741 The Multiples Approach to Continuation Value 742 The Discounted Cash Flow Approach to Continuation Value 743 COMMON MISTAKE Continuation Values and Long-Run Growth 745 APV Valuation of Ideko's Equity 745 A Reality Check 746 COMMON MISTAKE Missing Assets or Liabilities 746 IRR and Cash Multiples 747 19.6 Sensitivity Analysis 748

> MyFinanceLab 749 # Key Terms 750 # Further Reading 750 # Problems 751

Appendix Compensating Management 753

PART 7 OPTIONS

Chapter 20 Financial Options 756

- 20.1 Option Basics 757 Understanding Option Contracts 757 Interpreting Stock Option Quotations 757 Options on Other Financial Securities 759
- 20.2 Option Payoffs at Expiration 760 Long Position in an Option Contract 760 Short Position in an Option Contract 761 Profits for Holding an Option to Expiration 763 Returns for Holding an Option to Expiration 764 Combinations of Options 765

- 20.3 Put-Call Parity 768
- **20.4** Factors Affecting Option Prices 771 Strike Price and Stock Price 771 Arbitrage Bounds on Option Prices 771 Option Prices and the Exercise Date 771 Option Prices and Volatility 772
- 20.5Exercising Options Early773Non-Dividend-Paying Stocks773Dividend-Paying Stocks775
- 20.6 Options and Corporate Finance 777

 Equity as a Call Option 777
 Debt as an Option Portfolio 778
 Credit Default Swaps 778
 GLOBAL FINANCIAL CRISIS
 Credit Default Swaps 779

Pricing Risky Debt 780 Agency Conflicts 781

MyFinanceLab 782 c Key Terms 783 Further Reading 783 Problems 783 Data Case 788

Chapter 21 Option Valuation 789

21.1 The Binomial Option Pricing Model 790

A Two-State Single-Period Model 790 The Binomial Pricing Formula 792 A Multiperiod Model 793 Making the Model Realistic 797

21.2 The Black-Scholes Option Pricing Model 798

The Black-Scholes Formula 798
INTERVIEW with Myron S. Scholes 799
Implied Volatility 804
GLOBAL FINANCIAL CRISIS

The VIX Index 805 The Replicating Portfolio 806

Risk-Neutral Probabilities 808

21.3

A Risk-Neutral Two-State Model 808 Implications of the Risk-Neutral World 808 Risk-Neutral Probabilities and Option Pricing 809

21.4 Risk and Return of an Option 811

21.5 Corporate Applications of Option Pricing 813

Beta of Risky Debt 813

COMMON MISTAKE Valuing Employee Stock Options 816

NOBEL PRIZE The 1997 Nobel Prize in Economics 817

Agency Costs of Debt 817

MyFinanceLab 818 s Key Terms 820 Further Reading 820 Problems 820

Chapter 22 Real Options 825

22.1 Real Versus Financial Options 826

22.2 Decision Tree Analysis 826 Representing Uncertainty 827 Real Options 828 Solving Decision Trees 828

22.3 The Option to Delay: Investment as a Call Option 829 An Investment Option 829

- Why Are There Empty Lots in Built-Up Areas of Big Cities? 832
 Factors Affecting the Timing of Investment 833
 Investment Options and Firm Risk 834
 - GLOBAL FINANCIAL CRISIS Uncertainty, Investment, and the Option to Delay 835

22.4 Growth and Abandonment Options 836

Valuing Growth Potential 836 The Option to Expand 838

- INTERVIEW with Scott Mathews 839
 The Option to Abandon 840
- 22.5 Investments with Different Lives 842

Equivalent Annual Benefit Method 843

22.6 Optimally Staging Investments 844

22.7 Rules of Thumb 847

The Profitability Index Rule 848 The Hurdle Rate Rule 848 The Option to Repay a Mortgage 850

22.8 Key Insights from Real Options 851

MyFinanceLab 851
Key Terms 853
Further Reading 853
Problems 853

PART 8 LONG-TERM FINANCING

Chapter 23 Raising Equity Capital 860

- 23.1 Equity Financing for Private Companies 861
 - Sources of Funding 861
 - Crowdfunding: The Wave of the Future? 862
 - INTERVIEW with Kevin Laws 863

Venture Capital Investing 866

Venture Capital Financing Terms 868 COMMON MISTAKE Misinterpreting

Start-Up Valuations 868 From Launch to Liquidity 870 Exiting an Investment in a Private Company 872

23.2 The Initial Public Offering 872 Advantages and Disadvantages of Going Public 872 Types of Offerings 873 The Mechanics of an IPO 875 IIII Google's IPO 875

23.3 IPO Puzzles 880 Underpricing 880 Cyclicality 883 GLOBAL FINANCIAL CRISIS Worldwide IPO Deals in 2008–2009 884

> Cost of an IPO 884 Long-Run Underperformance 885

23.4 The Seasoned Equity Offering 886

The Mechanics of an SEO 886 Price Reaction 888 Issuance Costs 889

MyFinanceLab 889 m Key Terms 890 m Further Reading 891 m Problems 892 m Data Case 895

Chapter 24 Debt Financing 897

- 24.1 Corporate Debt 898 Public Debt 898 Private Debt 902
- 24.2 Other Types of Debt 903

 Sovereign Debt 903
 Municipal Bonds 905

 □ Detroit's Art Museum at Risk 905

 Asset-Backed Securities 906

 □ GLOBAL FINANCIAL CRISIS

 CDOs, Subprime Mortgages, and the Financial Crisis 906
- 24.3 Bond Covenants 908

24.4 Repayment Provisions 909
Call Provisions 909
South Ward Strategy 201
South Strategy 201
Sinking Funds 913
Convertible Provisions 913

MyFinanceLab 915 m Key Terms 916 m Further Reading 917 m Problems 917 m Data Case 918

Chapter 25 Leasing 921

25.1	The Basics of Leasing 922
	Examples of Lease Transactions 922
	Lease Payments and Residual
	Values 923
	Leases Versus Loans 924
	Calculating Auto Lease Payments 925
	End-of-Term Lease Options 925
	Other Lease Provisions 927
25.2	Accounting, Tax, and Legal
	Consequences of Leasing 927
	Lease Accounting 928
	Operating Leases at Alaska Air Group 929
	The Tax Treatment of Leases 930
	Leases and Bankruptcy 931
	Synthetic Leases 932
25.3	The Leasing Decision 932
	Cash Flows for a True Tax Lease 933
	Lease Versus Buy (An Unfair
	Comparison) 934
	Comparison) 934 Lease Versus Borrow (The Right
12	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935
12	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937
- 10, - + +	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938 Valid Arguments for Leasing 939
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938 Valid Arguments for Leasing 939 INTERVIEW with Mark Long 941 Suspect Arguments for Leasing 942
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938 Valid Arguments for Leasing 939 INTERVIEW with Mark Long 941
25.4	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938 Valid Arguments for Leasing 939 INTERVIEW with Mark Long 941 Suspect Arguments for Leasing 942 MyFinanceLab 943 Key Terms 944
	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938 Valid Arguments for Leasing 939 INTERVIEW with Mark Long 941 Suspect Arguments for Leasing 942 MyFinanceLab 943 ■ Key Terms 944 Further Reading 944 ■ Problems 945
	Comparison) 934 Lease Versus Borrow (The Right Comparison) 935 Evaluating a True Tax Lease 937 Evaluating a Non-Tax Lease 938 Reasons for Leasing 938 Valid Arguments for Leasing 939 INTERVIEW with Mark Long 941 Suspect Arguments for Leasing 942 MyFinanceLab 943 Key Terms 944

- Management 950
- 26.1 Overview of Working Capital 951 The Cash Cycle 951 Firm Value and Working Capital 953
- 26.2 Trade Credit 954 Trade Credit Terms 954 Trade Credit and Market Frictions 954 Managing Float 955
- 26.3 Receivables Management 956 Determining the Credit Policy 956 Monitoring Accounts Receivable 957

Payables Management 959 26.4 Determining Accounts Payable Days Outstanding 959 13 Stretching Accounts Payable 960

 $\hat{\mathcal{T}}$

鰯

SS

- Inventory Management 960 26.5 Benefits of Holding Inventory 961 Costs of Holding Inventory 961
- Cash Management 962 26.6 Motivation for Holding Cash 962 Alternative Investments 963 Hoarding Cash 963

MyFinanceLab 965 a Key Terms 966 a Further Reading 966 a Problems 967 a Data Case 970

Chapter 27 Short-Term Financial Planning 973

Forecasting Short-Term Financing 27.1 Needs 974

> Seasonalities 974 Negative Cash Flow Shocks 977 Positive Cash Flow Shocks 978

- 27.2 The Matching Principle 979 Permanent Working Capital 979 Temporary Working Capital 979 Financing Policy Choices 980
- 27.3 Short-Term Financing with Bank Loans 981

Single, End-of-Period Payment Loan 981 Line of Credit 981 Bridge Loan 982 **Common Loan Stipulations** and Fees 982

27.4 Short-Term Financing with Commercial Paper 984

GLOBAL FINANCIAL CRISIS Short-Term Financing in Fall 2008 985

27.5 Short-Term Financing with Secured Financing 986

Accounts Receivable as Collateral 986

- A Seventeenth-Century Financing Solution 986
- Inventory as Collateral 987
- Loan Guarantees: The Ex-Im Bank Controversy 988

MyFinanceLab 989 Key Terms 990 Further Reading 990 Problems 991

PART 10 SPECIAL TOPICS

Chapter 28 Mergers and Acquisitions 994

28.1 Background and Historical Trends 995 Merger Waves 995 Types of Mergers 997

28.2 Market Reaction to a Takeover 997

28.3 Reasons to Acquire 998 Economies of Scale and Scope 999 Vertical Integration 999 Expertise 999 Monopoly Gains 1000 Efficiency Gains 1000 Tax Savings from Operating Losses 1001 Diversification 1002 Earnings Growth 1002 Managerial Motives to Merge 1003

28.4 Valuation and the Takeover Process 1004

Valuation 1005 The Offer 1006 Merger "Arbitrage" 1007 Tax and Accounting Issues 1008 Board and Shareholder Approval 1009

28.5 Takeover Defenses 1010

Poison Pills 1010 Staggered Boards 1011 White Knights 1012 Golden Parachutes 1013 Recapitalization 1013 Other Defensive Strategies 1013 Regulatory Approval 1014 Weyerhaeuser's Hostile Bid for Willamette Industries 1014

28.6 Who Gets the Value Added from a Takeover? 1015

The Free Rider Problem 1015
Toeholds 1016
The Leveraged Buyout 1016
The Leveraged Buyout of RJR-Nabisco by KKR 1017
The Freezeout Merger 1019
Competition 1020

MyFinanceLab 1020 KeyTerms 1022 Further Reading 1022 Problems 1022

Chapter 29 Corporate Governance 1025

- 29.1 Corporate Governance and Agency Costs 1026
- 29.2 Monitoring by the Board of Directors and Others 1027 Types of Directors 1027 Board Independence 1027 Board Size and Performance 1029 Other Monitors 1029

29.3 Compensation Policies 1030 Stock and Options 1030 Pay and Performance Sensitivity 1030

29.4 Managing Agency Conflict 1032 Direct Action by Shareholders 1032 Shareholder Activism at *The New* York Times 1033 Management Entrenchment 1034 The Threat of Takeover 1035

29.5 Regulation 1035

The Sarbanes-Oxley Act 1036 INTERVIEW with Lawrence E. Harris 1037 The Cadbury Commission 1038 Dodd-Frank Act 1039 Insider Trading 1039 Martha Stewart and ImClone 1040

29.6 Corporate Governance Around the World 1040 Protection of Shareholder Rights 1040 Controlling Owners and Pyramids 1041 The Stakeholder Model 1043 Cross-Holdings 1044

29.7 The Trade-Off of Corporate Governance 1044

MyFinanceLab 1045 Key Terms 1047 Further Reading 1047 Problems 1047

Chapter 30 Risk Management 1049

30.1 Insurance 1050 The Role of Insurance: An Example 1050 Insurance Pricing in a Perfect Market 1050 The Value of Insurance 1052 The Costs of Insurance 1054 The Insurance Decision 1056

Contents

30.2 Commodity Price Risk 1056 Hedging with Vertical Integration and Storage 1057 Hedging with Long-Term Contracts 1057 Hedging with Futures Contracts 1059 COMMON MISTAKE Hedging Risk 1061 Differing Hedging Strategies 1062 Deciding to Hedge Commodity Price Risk 1062 30.3 Exchange Rate Risk 1063 Exchange Rate Fluctuations 1063 Hedging with Forward Contracts 1064 Cash-and-Carry and the Pricing of Currency Forwards 1065 GLOBAL FINANCIAL CRISIS Arbitrage in Currency Markets? 1067 Hedging with Options 1069 30.4 Interest Rate Risk 1073 Interest Rate Risk Measurement: Duration 1073 Duration-Based Hedging 1075 Swap-Based Hedging 1078 The Savings and Loan Crisis 1080 MyFinanceLab 1082 Key Terms 1084 Further Reading 1084 Problems 1085

Chapter 31 International Corporate Finance 1091

31.1 Internationally Integrated Capital Markets 1092

31.2 Valuation of Foreign Currency Cash Flows 1093

WACC Valuation Method in Domestic Currency 1094 Using the Law of One Price as a Robustness Check 1096

31.3 Valuation and International Taxation 1097

Single Foreign Project with Immediate Repatriation of Earnings 1098 Multiple Foreign Projects and Deferral of Earnings Repatriation 1098

31.4 Internationally Segmented Capital Markets 1099

Differential Access to Markets 1099 Macro-Level Distortions 1100 Implications 1101

31.5 Capital Budgeting with Exchange Risk 1102

INTERVIEW with Bill Barrett 1103

MyFinanceLab 1105 m Key Terms 1106 m Further Reading 1106 m Problems 1107 m Data Case 1109

Glossary 1111

Index 1131