CONTENTS

Foreword xi

Acknowledgments xv

Introduction xvii

CHAPTER 1
Equity Valuation: Applications and Processes 1

Learning Outcomes 1
1. Introduction 1
2. Value Definitions and Valuation Applications 2
   2.1. What Is Value? 2
      2.1.1. Intrinsic Value 2
      2.1.2. Going-Concern Value and Liquidation Value 4
      2.1.3. Fair Market Value and Investment Value 4
      2.1.4. Definitions of Value: Summary 5
   2.2. Applications of Equity Valuation 5
3. The Valuation Process 7
   3.1. Understanding the Business 8
      3.1.1. Industry and Competitive Analysis 8
      3.1.2. Analysis of Financial Reports 10
      3.1.3. Sources of Information 11
      3.1.4. Considerations in Using Accounting Information 12
   3.2. Forecasting Company Performance 17
   3.3. Selecting the Appropriate Valuation Model 18
      3.3.1. Absolute Valuation Models 18
      3.3.2. Relative Valuation Models 20
      3.3.3. Valuation of the Total Entity and Its Components 22
      3.3.4. Issues in Model Selection and Interpretation 24
   3.4. Converting Forecasts to a Valuation 25
   3.5. Applying the Valuation Conclusion: The Analyst's Role and Responsibilities 26
4. Communicating Valuation Results 28
   4.1. Contents of a Research Report 29
   4.2. Format of a Research Report 31
   4.3. Research Reporting Responsibilities 32

5. Summary 33
Problems 35

CHAPTER 2
Return Concepts 37

Learning Outcomes 37
1. Introduction 37
2. Return Concepts 38
2.1. Holding Period Return 38
2.2. Realized and Expected (Holding Period) Return 39
2.3. Required Return 39
2.4. Expected Return Estimates from Intrinsic Value Estimates 40
2.5. Discount Rate 43
2.6. Internal Rate of Return 43
3. The Equity Risk Premium 44
3.1. Historical Estimates 45
3.1.1. Arithmetic Mean or Geometric Mean 49
3.1.2. Long-term Government Bonds or Short-term Government Bills 50
3.1.3. Adjusted Historical Estimates 51
3.2. Forward-Looking Estimates 53
3.2.1. Gordon Growth Model Estimates 54
3.2.2. Macroeconomic Model Estimates 55
3.2.3. Survey Estimates 57
4. The Required Return on Equity 57
4.1. The Capital Asset Pricing Model 57
4.1.1. Beta Estimation for a Public Company 58
4.1.2. Beta Estimation for Thinly Traded Stocks and Nonpublic Companies 62
4.2. Multifactor Models 64
4.2.1. The Fama-French Model 65
4.2.2. Extensions to the Fama-French Model 69
4.2.3. Macroeconomic and Statistical Multifactor Models 70
4.3. Build-up Method Estimates of the Required Return on Equity 71
4.3.1. Build-up Approaches for Private Business Valuation 71
4.3.2. Bond Yield Plus Risk Premium 73
4.4. The Required Return on Equity: International Issues 75
5. The Weighted Average Cost of Capital 76
6. Discount Rate Selection in Relation to Cash Flows 78
7. Summary 78
Problems 80

CHAPTER 3
Discounted Dividend Valuation 83

Learning Outcomes 83
1. Introduction 84
2. Present Value Models 85

2.1. Valuation Based on the Present Value of Future Cash Flows 85
2.2. Streams of Expected Cash Flows 87
3. The Dividend Discount Model 93
3.1. The Expression for a Single Holding Period 93
3.2. The Expression for Multiple Holding Periods 94
4. The Gordon Growth Model 97
4.1. The Gordon Growth Model Equation 97
4.2. The Links among Dividend Growth, Earnings Growth, and Value Appreciation in the Gordon Growth Model 104
4.3. Share Repurchases 104
4.4. The Implied Dividend Growth Rate 105
4.5. The Present Value of Growth Opportunities 106
4.6. Gordon Growth Model and the Price-to-Earnings Ratio 109
4.7. Estimating a Required Return Using the Gordon Growth Model 111
4.8. The Gordon Growth Model: Concluding Remarks 111
5. Multistage Dividend Discount Models 112
5.1. Two-Stage Dividend Discount Model 113
5.2. Valuing a Non-Dividend-Paying Company 116
5.3. The H-Model 117
5.4. Three-Stage Dividend Discount Models 119
5.5. Spreadsheet (General) Modeling 123
5.6. Estimating a Required Return Using Any DDM 125
5.7. Multistage DDM: Concluding Remarks 127
6. The Financial Determinants of Growth Rates 127
6.1. Sustainable Growth Rate 128
6.2. Dividend Growth Rate, Retention Rate, and ROE Analysis 129
6.3. Financial Models and Dividends 132
7. Summary 134
Problems 137

CHAPTER 4
Free Cash Flow Valuation **145**

Learning Outcomes 145
1. Introduction to Free Cash Flows 146
2. FCFF and FCFE Valuation Approaches 146
2.1. Defining Free Cash Flow 147
2.2. Present Value of Free Cash Flow 148
2.2.1. Present Value of FCFF 148
2.2.2. Present Value of FCFE 149
2.3. Single-Stage (Constant-Growth) FCFF and FCFE Models 149
2.3.1. Constant-Growth FCFF Valuation Model 149
2.3.2. Constant-Growth FCFE Valuation Model 150
3. Forecasting Free Cash Flow 151
3.1. Computing FCFF from Net Income 151
3.2. Computing FCFF from the Statement of Cash Flows 155
3.3. Noncash Charges 157
3.4. Computing FCFE from FCFF 163

3.5. Finding FCFF and FCFE from EBIT or EBITDA 169
3.6. FCFF and FCFE on a Uses-of-Free-Cash-Flow Basis 171
3.7. Forecasting FCFF and FCFE 172
3.8. Other Issues in Free Cash Flow Analysis 177
3.8.1. Analyst Adjustments to CFO 177
3.8.2. Free Cash Flow versus Dividends and Other Earnings Components 177
3.8.3. Free Cash Flow and Complicated Capital Structures 180
4. Free Cash Flow Model Variations 182
4.1. An International Application of the Single-Stage Model 182
4.2. Sensitivity Analysis of FCFF and FCFE Valuations 184
4.3. Two-Stage Free Cash Flow Models 185
4.3.1. Fixed Growth Rates in Stage 1 and Stage 2 186
4.3.2. Declining Growth Rate in Stage 1 and Constant Growth in Stage 2 188
4.4. Three-Stage Growth Models 192
5. Nonoperating Assets and Firm Value 194
6. Summary 194
Problems 196

CHAPTER 5
Residual Income Valuation **209**

Learning Outcomes 209
1. Introduction 210
2. Residual Income 210
2.1. The Use of Residual Income in Equity Valuation 213
2.2. Commercial Implementations 214
3. The Residual Income Model 215
3.1. The General Residual Income Model 219
3.2. Fundamental Determinants of Residual Income 223
3.3. Single-Stage Residual Income Valuation 224
3.4. Multistage Residual Income Valuation 225
4. Residual Income Valuation in Relation to Other Approaches 230
4.1. Strengths and Weaknesses of the Residual Income Model 232
4.2. Broad Guidelines for Using a Residual Income Model 233
5. Accounting and International Considerations 234
5.1. Violations of the Clean Surplus Relationship 235
5.2. Balance Sheet Adjustments for Fair Value 243
5.3. Intangible Assets 244
5.4. Nonrecurring Items 247
5.5. Other Aggressive Accounting Practices 248
5.6. International Considerations 248
6. Summary 249
Problems 252

CHAPTER 6
Market-Based Valuation: Price and Enterprise Value Multiples 257

Learning Outcomes 257
1. Introduction 258
2. Price and Enterprise Value Multiples in Valuation 259
   2.1. The Method of Comparables 259
   2.2. The Method Based on Forecasted Fundamentals 260
3. Price Multiples 262
   3.1. Price to Earnings 262
      3.1.1. Alternative Definitions of P/E 263
      3.1.2. Calculating the Trailing P/E 265
      3.1.3. Forward P/E 272
      3.1.4. Valuation Based on Forecasted Fundamentals 275
      3.1.5. Valuation Based on Comparables 279
      3.1.6. P/Es in Cross-Country Comparisons 291
      3.1.7. Using P/Es to Obtain Terminal Value in Multistage Dividend Discount Models 293
   3.2. Price to Book Value 295
      3.2.1. Determining Book Value 298
      3.2.2. Valuation Based on Forecasted Fundamentals 304
      3.2.3. Valuation Based on Comparables 305
   3.3. Price to Sales 306
      3.3.1. Determining Sales 307
      3.3.2. Valuation Based on Forecasted Fundamentals 310
      3.3.3. Valuation Based on Comparables 311
   3.4. Price to Cash Flow 312
      3.4.1. Determining Cash Flow 314
      3.4.2. Valuation Based on Forecasted Fundamentals 316
      3.4.3. Valuation Based on Comparables 317
   3.5. Price to Dividends and Dividend Yield 318
      3.5.1. Calculation of Dividend Yield 318
      3.5.2. Valuation Based on Forecasted Fundamentals 319
      3.5.3. Valuation Based on Comparables 320
4. Enterprise Value Multiples 320
   4.1. Enterprise Value to EBITDA 321
      4.1.1. Determining Enterprise Value 322
      4.1.2. Valuation Based on Forecasted Fundamentals 325
      4.1.3. Valuation Based on Comparables 325
   4.2. Other Enterprise Value Multiples 326
   4.3. Enterprise Value to Sales 327
   4.4. Price and Enterprise Value Multiples in a Comparable Analysis: Some Illustrative Data 328
5. International Considerations When Using Multiples 330
6. Momentum Valuation Indicators 332
7. Valuation Indicators: Issues in Practice 337

7.1. Averaging Multiples: The Harmonic Mean 338
7.2. Using Multiple Valuation Indicators 340
8. Summary 344
Problems 346

CHAPTER 7
Private Company Valuation 353

Learning Outcomes 353
1. Introduction 354
2. The Scope of Private Company Valuation 354
2.1. Private and Public Company Valuation: Similarities and Contrasts 354
2.1.1. Company-Specific Factors 355
2.1.2. Stock-Specific Factors 356
2.2. Reasons for Performing Valuations 356
3. Definitions (Standards) of Value 358
4. Private Company Valuation Approaches 360
4.1. Earnings Normalization and Cash Flow Estimation Issues 361
4.1.1. Earnings Normalization Issues for Private Companies 361
4.1.2. Cash Flow Estimation Issues for Private Companies 365
4.2. Income Approach Methods of Private Company Valuation 367
4.2.1. Required Rate of Return: Models and Estimation Issues 368
4.2.2. Free Cash Flow Method 373
4.2.3. Capitalized Cash Flow Method 373
4.2.4. Excess Earnings Method 375
4.3. Market Approach Methods of Private Company Valuation 377
4.3.1. Guideline Public Company Method 379
4.3.2. Guideline Transactions Method 382
4.3.3. Prior Transaction Method 384
4.4. Asset-based Approach to Private Company Valuation 385
4.5. Valuation Discounts and Premiums 386
4.5.1. Lack of Control Discounts 388
4.5.2. Lack of Marketability Discounts 389
4.6. Business Valuation Standards and Practices 393
5. Summary 395
Problems 397

Glossary 405

References 413

About the Authors 419

About the CFA Program 421

Index 423