

# Brief Contents

## **PART ONE**

### **Elements of Investments 1**

- 1 Investments: Background and Issues 2**
- 2 Financial Markets and Instruments 23**
- 3 How Securities Are Traded 57**
- 4 Mutual Funds and Other Investment Companies 88**
- 5 Investors and the Investment Process 112**

## **PART TWO**

### **Portfolio Theory 136**

- 6 Risk and Return: Past and Prologue 137**
- 7 Efficient Diversification 166**
- 8 Capital Asset Pricing and Arbitrage Pricing Theory 198**
- 9 The Efficient Market Hypothesis 231**

## **PART THREE**

### **Fixed-Income Securities 258**

- 10 Bond Prices and Yields 259**
- 11 Managing Fixed-Income Investments 296**

## **PART FOUR**

### **Security Analysis 327**

- 12      Macroeconomic and Industry  
Analysis    328**
- 13      Equity Valuation    355**
- 14      Financial Statement Analysis    383**
- 15      Technical Analysis    413**

#### **PART FIVE**

#### **Derivative Assets: Options and Futures    436**

- 16      Options Markets    437**
- 17      Option Valuation    474**
- 18      Futures Markets    498**

#### **PART SIX**

#### **Active Investment Management    526**

- 19      Performance Evaluation    527**
- 20      International Diversification    544**
- 21      Active Portfolio Management    565**

#### **APPENDIXES**

- A      Sources of Financial and Economic  
Information    581**
- B      References    590**
- C      Mathematical Tables    594**
- D      References to CFA Questions    599**

#### **INDEXES    602**

# Contents

## **PART ONE**

### **ELEMENTS OF INVESTMENTS 1**

#### **CHAPTER 1**

##### **Investments: Background and Issues 2**

- 1.1 Real Assets versus Financial Assets 3
- 1.2 A Taxonomy of Financial Assets 4
- 1.3 Financial Markets and the Economy 5
  - Consumption Timing 7*
  - Allocation of Risk 7*
  - Separation of Ownership and Management 7*
- 1.4 The Investment Process 8
- 1.5 Markets Are Competitive 8
  - The Risk-Return Trade-Off 8*
  - Efficient Markets 9*
- 1.6 The Players 10
  - Financial Intermediaries 10*
  - Investment Bankers 12*
- 1.7 Markets and Market Structure 12
  - Direct Search Markets 13*
  - Brokered Markets 13*
  - Dealer Markets 13*
  - Auction Markets 13*
- 1.8 Recent Trends 14
  - Globalization 14*
  - Securitization 14*
  - Financial Engineering 17*
- 1.9 Outline of the Text 18
  - Summary 19*

#### **CHAPTER 2**

##### **Financial Markets and Instruments 23**

- 2.1 The Money Market 23
  - Treasury Bills 24*
  - Bank Discount Yields 24*
  - Certificates of Deposit 28*
  - Commercial Paper 28*
  - Bankers' Acceptances 28*
  - Eurodollars 29*
  - Repos and Reverses 29*
  - Brokers' Calls 29*
  - Federal Funds 30*

	<i>The LIBOR Market</i>	30
	<i>Yields on Money Market Instruments</i>	30
2.2	The Fixed-Income Capital Market	31
	<i>Treasury Notes and Bonds</i>	31
	<i>Federal Agency Debt</i>	32
	<i>Municipal Bonds</i>	33
	<i>Corporate Bonds</i>	36
	<i>Mortgages and Mortgage-Backed Securities</i>	36
2.3	Equity Securities	38
	<i>Common Stock as Ownership Shares</i>	38
	<i>Characteristics of Common Stock</i>	39
	<i>Stock Market Listings</i>	39
	<i>Preferred Stock</i>	40
2.4	Stock and Bond Market Indexes	41
	<i>Stock Market Indexes</i>	41
	<i>Dow Jones Averages</i>	44
	<i>Standard &amp; Poor's Indexes</i>	45
	<i>Other Market Value Indexes</i>	46
	<i>Equally Weighted Indexes</i>	48
	<i>Foreign and International Stock Market Indexes</i>	48
	<i>Bond Market Indicators</i>	49
2.5	Derivative Markets	49
	<i>Options</i>	49
	<i>Futures Contracts</i>	51
	Summary	52

## **CHAPTER 3**

### **How Securities Are Traded 57**

3.1	How Firms Issue Securities	57
	<i>Investment Banking</i>	58
	<i>Shelf Registration</i>	59
	<i>Initial Public Offerings</i>	59
3.2	Where Securities Are Traded	61
	<i>The Secondary Markets</i>	61
	<i>The Over-the-Counter Market</i>	64
	<i>The Third and Fourth Markets</i>	64
	<i>The National Market System</i>	65
3.3	Trading on Exchanges	65
	<i>The Participants</i>	65
	<i>Types of Orders</i>	66
	<i>Specialists and the Execution of Trades</i>	67

- Block Sales* 69
- The DOT System* 69
- Settlement* 69
- 3.4 Trading on the OTC Market 70
  - Market Structure in Other Countries* 71
- 3.5 Trading Costs 72
- 3.6 Buying on Margin 74
- 3.7 Short Sales 76
- 3.8 Regulation of Securities Markets 77
  - Self-Regulation and Circuit Breakers* 78
  - Insider Trading* 80
  - Summary 82

## CHAPTER 4

### **Mutual Funds and Other Investment Companies 88**

- 4.1 Investment Companies 89
- 4.2 Types of Investment Companies 89
  - Unit Investment Trusts* 90
  - Managed Investment Companies* 90
  - Other Investment Organizations* 92
- 4.3 Mutual Funds 93
  - Investment Policies* 93
  - How Funds Are Sold* 94
- 4.4 Costs of Investing in Mutual Funds 95
  - Fee Structure* 95
  - Fees and Mutual Fund Returns* 97
- 4.5 Taxation of Mutual Fund Income 99
- 4.6 Mutual Fund Investment Performance: A First Look 101
- 4.7 Information on Mutual Funds 104
  - Summary 108

## CHAPTER 5

### **Investors and the Investment Process 112**

- 5.1 Investors and Objectives 113
  - Individual Investors* 115
  - Professional Investors* 115
  - Pension Funds* 116
  - Life Insurance Companies* 117
  - Nonlife Insurance Companies* 117
  - Banks* 117
  - Endowment Funds* 118
- 5.2 Investor Constraints 118
  - Liquidity* 119
  - Investment Horizon* 119
  - Regulations* 119
  - The Considerations* 120

- Unique Needs* 120
- 5.3 Objectives and Constraints of Various Investors 121
  - Objectives* 121
  - Constraints* 122
- 5.4 Investment Policies 123
  - Top-Down Policies for Institutional Investors* 124
  - Active versus Passive Policies* 125
- 5.5 Taxes and Investment Strategy 127
  - Tax-Shelter Options* 127
- 5.6 Monitoring and Revising Investment Portfolios 129
  - Summary 130

## **PART TWO**

### **PORTFOLIO THEORY 136**

#### **CHAPTER 6**

##### **Risk and Return: Past and Prologue 137**

- 6.1 Rates of Return 137
  - Measuring Investment Returns over Multiple Periods* 137
  - Conventions for Quoting Rates of Return* 140
- 6.2 Risk and Risk Premiums 141
  - Scenario Analysis and Probability Distributions* 141
- 6.3 The Historical Record 145
  - Bills, Bonds, and Stocks, 1926–1996* 145
- 6.4 Inflation and Real Rates of Return 146
  - The Equilibrium Nominal Rate of Interest* 150
- 6.5 Asset Allocation Across Risky and Risk-Free Portfolios 151
  - The Risky Asset* 151
  - The Risk-Free Asset* 152
  - Portfolio Expected Return and Risk* 153
  - The Capital Allocation Line* 155
  - Risk Tolerance and Asset Allocation* 156
- 6.6 Passive Strategies and the Capital Market Line 157
  - Historical Evidence on the Capital Market Line* 159
  - Costs and Benefits of Passive Investing* 160
  - Summary 160

#### **CHAPTER 7**

##### **Efficient Diversification 166**

- 7.1 Diversification and Portfolio Risk 167

- 7.2 Asset Allocation with Two Risky Assets 168  
*Covariance and Correlation* 168  
*The Three Rules of Two-Risky-Asset Portfolios* 171  
*The Risk-Return Trade-Off with Two-Risky-Asset Portfolios* 172  
*Mean-Variance Criteria* 173  
*Using Historical Data* 176
- 7.3 The Optimal Risky Portfolio with a Risk-Free Asset 177
- 7.4 Efficient Diversification with Many Risky Assets 180  
*The Efficient Frontier of Risky Assets* 180  
*Choosing the Optimal Risky Portfolio* 181  
*The Preferred Complete Portfolio and the Separation Property* 182
- 7.5 A Single-Factor Asset Market 182  
*Specification of a Single-Index Model of Security Returns* 183  
*Statistical and Graphical Representation of the Single-Index Model* 184  
*Diversification in a Single-Factor Security Market* 188  
 Summary 188  
 Appendix: The Fallacy of Time Diversification 196

## CHAPTER 8

### Capital Asset Pricing and Arbitrage Pricing Theory 198

- 8.1 The Capital Asset Pricing Model 199  
*Why All Investors Would Hold the Market Portfolio* 200  
*The Passive Strategy Is Efficient* 201  
*The Risk Premium of the Market Portfolio* 201  
*Expected Returns on Individual Securities* 202  
*The Security Market Line* 204  
*Applications of the CAPM* 205
- 8.2 The CAPM and Index Models 206  
*The Index Model, Realized Returns, and the Expected Return–Beta Relationship* 206  
*Estimating the Index Model* 207  
*The CAPM and the Index Model* 209  
*Predicting Betas* 213
- 8.3 The CAPM and the Real World 215
- 8.4 Arbitrage Pricing Theory 217  
*Arbitrage Opportunities and Profits* 217

<i>Well-Diversified Portfolios and the Arbitrage Pricing Theory</i>	219
<i>The APT and the CAPM</i>	222
<i>Multifactor Generalization of the APT and CAPM</i>	222
Summary	224

**CHAPTER 9****The Efficient Market Hypothesis 231**

9.1	Random Walks and the Efficient Market Hypothesis	232
	<i>Competition as the Source of Efficiency</i>	232
	<i>Versions of the Efficient Market Hypothesis</i>	233
9.2	Implications of the EMH for Investment Policy	234
	<i>Technical Analysis</i>	234
	<i>Fundamental Analysis</i>	235
	<i>Active versus Passive Portfolio Management</i>	235
	<i>The Role of Portfolio Management in an Efficient Market</i>	236
9.3	Are Markets Efficient?	237
	<i>The Issues</i>	237
	<i>Tests of Predictability in Stock Market Returns</i>	239
	<i>Predictors of Broad Market Movements</i>	240
	<i>Portfolio Strategies and Market Anomalies</i>	240
	<i>Scientific and Computing Power in Search of Abnormal Returns</i>	251
	<i>So, Are Markets Efficient?</i>	253
	Summary	253

**PART THREE****FIXED-INCOME SECURITIES 258****CHAPTER 10****Bond Prices and Yields 259**

10.1	Bond Characteristics	260
	<i>Treasury Bonds and Notes</i>	260
	<i>Corporate Bonds</i>	262
	<i>Preferred Stock</i>	264
	<i>Other Domestic Issuers</i>	265
	<i>International Bonds</i>	265
	<i>Innovation in the Bond Market</i>	265
10.2	Default Risk	266
	<i>Junk Bonds</i>	267
	<i>Determinants of Bond Safety</i>	268



- Bond Indentures* 269
- 10.3 Bond Pricing 270
- 10.4 Bond Yields 273
  - Yield to Maturity* 273
  - Yield to Call* 275
  - Yield to Maturity and Default Risk* 277
  - Realized Compound Yield versus Yield to Maturity* 278
  - Yield to Maturity versus Holding-Period Return* 279
- 10.5 Bond Prices over Time 280
  - Zero-Coupon Bonds* 281
  - After-Tax Returns* 282
- 10.6 The Yield Curve 283
  - The Expectations Theory* 283
  - The Liquidity Preference Theory* 285
  - Market Segmentation Theory* 286
  - A Synthesis* 286
  - Summary 288

## CHAPTER 11

### Managing Fixed-Income Investments 296

- 11.1 Interest Rate Risk 297
  - Interest Rate Sensitivity* 297
  - Duration* 299
  - What Determines Duration?* 301
- 11.2 Passive Bond Management 303
  - Net Worth Immunization* 304
  - Target Date Immunization* 304
  - Cash Flow Matching and Dedication* 309
- 11.3 Convexity 310
- 11.4 Active Bond Management 313
  - Sources of Potential Profit* 313
  - Horizon Analysis* 315
  - Contingent Immunization* 315
  - An Example of a Fixed-Income Investment Strategy* 316
- 11.5 Interest Rate Swaps 318
  - Summary 320

## PART FOUR

### SECURITY ANALYSIS 327

## CHAPTER 12

### Macroeconomic and Industry Analysis 328

- 12.1 The Global Economy 329
- 12.2 The Domestic Macroeconomy 329
  - Gross Domestic Product* 331

- Employment* 331
- Inflation* 331
- Interest Rates* 332
- Budget Deficit* 332
- Sentiment* 332
- 12.3 *Interest Rates* 332
- 12.4 *Demand and Supply Shocks* 334
- 12.5 *Federal Government Policy* 334
  - Fiscal Policy* 335
  - Monetary Policy* 336
  - Supply-Side Policies* 336
- 12.6 *Business Cycles* 337
  - The Business Cycle* 337
  - Economic Indicators* 340
- 12.7 *Industry Analysis* 341
  - Defining an Industry* 341
  - Sensitivity to the Business Cycle* 344
  - Industry Life Cycles* 346
  - Industry Structure and Performance* 349
  - Summary* 350

## **CHAPTER 13**

### **Equity Valuation 355**

- 13.1 *Balance Sheet Valuation Methods* 355
- 13.2 *Intrinsic Value versus Market Price* 356
- 13.3 *Dividend Discount Models* 358
  - The Constant Growth DDM* 359
  - Stock Prices and Investment Opportunities* 362
  - Life Cycles and Multistage Growth Models* 364
- 13.4 *Price/Earnings Ratios* 368
  - The Price/Earnings Ratio and Growth Opportunities* 368
  - P/E Ratios and Stock Risk* 371
  - Pitfalls in P/E Analysis* 371
  - Combining P/E Analysis and the DDM* 374
- 13.5 *The Aggregate Stock Market* 374
  - Summary* 377

## **CHAPTER 14**

### **Financial Statement Analysis 383**

- 14.1 *The Major Financial Statements* 384
  - The Income Statement* 384
  - The Balance Sheet* 384
  - The Statement of Cash Flows* 385
- 14.2 *Accounting versus Economic Earnings* 387
- 14.3 *Return on Equity* 388

- Past versus Future ROE* 388
    - Financial Leverage and ROE* 388
  - 14.4 Ratio Analysis 390
    - Decomposition of ROE* 390
    - Turnover and Other Asset Utilization Ratios* 392
    - Liquidity and Coverage Ratios* 393
    - Market Price Ratios* 394
  - 14.5 An Illustration of Financial Statement Analysis 396
  - 14.6 Comparability Problems 398
    - Inventory Valuation* 398
    - Depreciation* 400
    - Inflation and Interest Expense* 401
    - International Accounting Conventions* 401
    - Inflation Accounting* 402
  - 14.7 Value Investing: The Graham Technique 404
    - Summary 404

## **CHAPTER 15**

### **Technical Analysis 413**

- 15.1 Technical Analysis 413
- 15.2 Charting 414
  - The Dow Theory* 414
  - Other Charting Techniques* 417
  - A Warning* 418
- 15.3 Technical Indicators 421
  - Sentiment Indicators* 422
  - Flow of Funds* 424
  - Market Structure* 424
- 15.4 The Value Line System 427
- 15.5 Can Technical Analysis Work in Efficient Markets? 429
  - Self-Destructing Patterns* 429
  - A New View of Technical Analysis* 430
  - Summary 431

## **PART FIVE**

### **DERIVATIVE ASSETS: OPTIONS AND FUTURES 436**

## **CHAPTER 16**

### **Options Markets 437**

- 16.1 The Option Contract 438
  - Options Trading* 439
  - American and European Options* 441
  - The Option Clearing Corporation* 441

- Other Listed Options* 442
- 16.2 Values of Options at Expiration 445
  - Call Options* 445
  - Put Options* 446
  - Options versus Stock Investments* 448
  - The Put-Call Parity Relationship* 450
  - Option Strategies* 453
- 16.3 Option-Like Securities 459
  - Callable Bonds* 460
  - Convertible Securities* 461
  - Warrants* 463
  - Collateralized Loans* 463
  - Levered Equity and Risky Debt* 464
- 16.4 Exotic Options 464
  - Asian Options* 465
  - Barrier Options* 466
  - Lookback Options* 466
  - Currency-Translated Options* 466
  - Binary Options* 466
  - Summary 466

## **CHAPTER 17**

### **Option Valuation 474**

- 17.1 Option Valuation: Introduction 474
  - Intrinsic and Time Values* 474
  - Determinants of Option Values* 474
- 17.2 Binomial Option Pricing 477
  - Two-State Option Pricing* 477
  - Generalizing the Two-State Approach* 480
- 17.3 Black-Scholes Option Valuation 482
  - The Black-Scholes Formula* 482
  - Put Option Valuation* 486
- 17.4 Using the Black-Scholes Formula 487
  - Hedge Ratios and the Black-Scholes Formula* 487
  - Portfolio Insurance* 488
- 17.5 Empirical Evidence 492
  - Summary 493

## **CHAPTER 18**

### **Futures Markets 498**

- 18.1 The Futures Contract 499
  - The Basics of Futures Contracts* 500
  - Existing Contracts* 500
- 18.2 Mechanics of Trading in Futures Markets 501
  - The Clearinghouse and Open Interest* 501

- Marking to Market and the Margin Account* 505
- Cash versus Actual Delivery* 507
- Regulations* 508
- Taxation* 508
- 18.3 **Futures Market Strategies** 508
  - Hedging and Speculation* 508
  - Basis Risk and Hedging* 508
- 18.4 **The Determination of Futures Prices** 511
  - The Spot-Futures Parity Theorem* 511
  - Spreads* 513
- 18.5 **Financial Futures** 514
  - Stock Index Futures* 514
  - Creating Synthetic Stock Positions* 515
  - Index Arbitrage and the Triple-Witching Hour* 516
  - Foreign Exchange Futures* 518
  - Interest Rate Futures* 519
  - Summary** 521

## **PART SIX**

### **ACTIVE INVESTMENT MANAGEMENT 526**

#### **CHAPTER 19**

##### **Performance Evaluation 527**

- 19.1 **Risk-Adjusted Returns** 527
  - Comparison Groups* 527
  - Risk Adjustments* 529
  - Risk Adjustments with Changing Portfolio Composition* 532
- 19.2 **Market Timing** 534
- 19.3 **Performance Attribution Procedures** 535
  - Asset Allocation Decisions* 536
  - Sector and Security Selection Decisions* 537
  - Summing Up Component Contributions* 538
  - Summary** 539

#### **CHAPTER 20**

##### **International Diversification 544**

- 20.1 **International Investments** 545
  - The World Market Portfolio* 545

<i>International Diversification</i>	545
<i>Exchange Rate Risk</i>	550
<i>Passive and Active International Investing</i>	554
<i>Factor Models and International Investing</i>	555
<i>Equilibrium in International Capital Markets</i>	557
Summary	558

Appendix A Investments in Nontraditional Asset Groups	562
Real Estate	562
Precious Metals	562
Other Nontraditional Assets	564

## **CHAPTER 21**

### **Active Portfolio Management 565**

21.1	The Lure of Active Management	565
21.2	Objectives of Active Portfolios	567
21.3	Market Timing	570
	<i>Valuing Market Timing as an Option</i>	572
	<i>The Value of Imperfect Forecasting</i>	572
21.4	Security Selection: The Treynor-Black Model	573
	<i>Overview of the Treynor-Black Model</i>	573
	<i>Portfolio Construction</i>	575
21.5	Multifactor Models and Active Portfolio Management	577
	Summary	578

## **APPENDIXES**

<b>A</b>	Sources of Financial and Economic Information	581
<b>B</b>	References	590
<b>C</b>	Mathematical Tables	594
<b>D</b>	References to CFA Questions	599

## **NAME INDEX 602**

## **SUBJECT INDEX 604**