

PART ONE

INTRODUCTION 1

- 1** The Investment Environment 3
- 2** Financial Instruments 31
- 3** How Securities are Traded 65
- 4** Mutual Funds and Other
Investment companies 107

PART TWO

PORTFOLIO THEORY 135

- 5** History of Interest Rates and
Risk Premiums 137
- 6** Risk and Risk Aversion 165
- 7** Capital Allocation Between the Risky
Asset and the Risk-Free Asset 197
- 8** Optimal Risky Portfolios 223

PART THREE

EQUILIBRIUM IN CAPITAL MARKETS 279

- 9** The Capital Asset Pricing Model 281
- 10** Index Models 317
- 11** Arbitrage Pricing Theory and Multifactor
Models of Risk and Return 343
- 12** Market Efficiency and
Behavioral Finance 369
- 13** Empirical Evidence on
Security Returns 415

PART FOUR

FIXED-INCOME SECURITIES 445

- 14** Bond Prices and Yields 447
- 15** The Term Structure of Interest Rates 487
- 16** Managing Bond Portfolios 519

PART FIVE

SECURITY ANALYSIS 569

- 17** Macroeconomic and
Industry Analysis 571
- 18** Equity Valuation Models 605
- 19** Financial Statement Analysis 655

PART SIX

OPTIONS, FUTURES, AND OTHER DERIVATIVES 695

- 20** Options Markets: Introduction 697
- 21** Option Valuation 745
- 22** Futures Markets 791
- 23** Futures and Swaps: A Closer Look 821

PART SEVEN

APPLIED PORTFOLIO MANAGEMENT 859

- 24** Portfolio Performance Evaluation 861
- 25** International Diversification 905
- 26** The Process of
Portfolio Management 939
- 27** The Theory of Active
Portfolio Management 981

Appendix A

Quantitative Review 1005

Appendix B

CFA Citations 1043

Appendix C 1047

Name Index 1061

Subject Index 1065

PART ONE 1
INTRODUCTION

CHAPTER 1 3
THE INVESTMENT ENVIRONMENT

- 1.1 Real Assets versus Financial Assets 4
- 1.2 Financial Markets and the Economy 6
 - Consumption Timing 6
 - Allocation of Risk 6
 - Separation of Ownership and Management 7
 - A Crisis in Corporate Governance 8
 - Accounting Scandals 8
 - Analyst Scandals 10
 - Initial Public Offerings 11
- 1.3 Clients of the Financial System 11
 - The Household Sector 12
 - The Business Sector 12
 - The Government Sector 13
- 1.4 The Environment Responds to Clientele Demands 14
 - Financial Intermediation 14
 - Investment Banking 16
 - Financial Innovation and Derivatives 17
 - Response to Taxation and Regulation 18
- 1.5 Markets and Market Structure 20
- 1.6 Ongoing Trends 21
 - Globalization 21
 - Securitization 22
 - Financial Engineering 24
 - Computer Networks 25
- Summary 25
- Key Terms 26
- Websites 26
- Problems 27
- Standard and Poor's 29
- E-Investments: Track Your Portfolio 29
- Solutions to Concept Checks 30

CHAPTER 2 31
FINANCIAL INSTRUMENTS

- 2.1 The Money Market 32
 - Treasury Bills 32
 - Certificates of Deposit 33
 - Commercial Paper 33
 - Bankers' Acceptances 33
 - Eurodollars 34
 - Repos and Reverses 34
 - Federal Funds 34
 - Brokers' Calls 35
 - The LIBOR Market 35
 - Yields on Money Market Instruments 35
- 2.2 The Bond Market 35
 - Treasury Notes and Bonds 36
 - Federal Agency Debt 36
 - International Bonds 38
 - Municipal Bonds 39
 - Corporate Bonds 41
 - Mortgages and Mortgage-Backed Securities 42
- 2.3 Equity Securities 44
 - Common Stocks as Ownership Shares 44
 - Characteristics of Common Stock 45
 - Stock Market Listings 46
 - Preferred Stock 47
- 2.4 Stock and Bond Market Indexes 47
 - Stock Market Indexes 47
 - Dow Jones Averages 48
 - Standard & Poor's Indexes 51
 - Other U.S. Market-Value Indexes 52
 - Equally Weighted Indexes 52
 - Foreign and International Stock Market Indexes 53
 - Bond Market Indicators 53
- 2.5 Derivative Markets 54
 - Options 54
 - Futures Contracts 57

Summary	58
Key Terms	59
Websites	59
Problems	60
Standard and Poor's	63
E-Investments:	
Security Prices and Returns	63
Solutions to Concept Checks	63

CHAPTER 3 65

HOW SECURITIES ARE TRADED

3.1	How Firms Issue Securities	66
	Investment Bankers and Underwriting	66
	Shelf Registration	68
	Private Placements	68
	Initial Public Offerings	68
3.2	Where Securities Are Traded	71
	The Secondary Markets	72
	The Over-the-Counter Market	73
	The Third and Fourth Markets	75
	The National Market System	76
	Bond Trading	77
3.3	Trading on Exchanges	77
	The Participants	77
	Types of Orders	78
	Market Orders	78
	Limit Orders	78
	Specialists and the Execution of Trades	80
	Block Sales	81
	The SuperDOT System	82
	Settlement	82
3.4	Trading on the OTC Market	82
	Market Structure in Other Countries	84
	London	84
	Euronext	84
	Tokyo	85
	Globalization of Stock Markets	85
3.5	Trading Costs	86
3.6	Buying on Margin	88
3.7	Short Sales	91
3.8	Regulation of Securities Markets	94
	Government Regulation	94
	Regulatory Responses to Recent Scandals	95
	Self-Regulation and Circuit Breakers	96
	Insider Trading	98
	Summary	99
	Key Terms	100

Websites	100
Problems	101
Standard and Poor's	105
E-Investments: Short Sales	105
Solutions to Concept Checks	105

CHAPTER 4 107

MUTUAL FUNDS AND OTHER INVESTMENT COMPANIES

4.1	Investment Companies	108
4.2	Types of Investment Companies	109
	Unit Investment Trusts	109
	Managed Investment Companies	109
	Other Investment Organizations	111
	Commingled Funds	111
	Real Estate Investment Trusts (REITS)	111
	Hedge Funds	111
4.3	Mutual Funds	112
	Investment Policies	112
	Money Market Funds	112
	Equity Funds	112
	Bond Funds	113
	International Funds	113
	Balanced and Income Funds	113
	Asset Allocation and Flexible Funds	113
	Index Funds	113
	How Funds Are Sold	115
4.4	Costs of Investing in Mutual Funds	116
	Fee Structure	116
	Front-End Load	116
	Back-End Load	116
	Operating Expenses	116
	2b-1 Charges	116
	Fees and Mutual Fund Returns	117
4.5	Taxation of Mutual Fund Income	119
4.6	Exchange-Traded Funds	120
4.7	Mutual Fund Investment Performance: A First Look	122
4.8	Information on Mutual Funds	125
	Summary	129
	Key Terms	129
	Websites	130
	Problems	131
	Standard and Poor's	133
	E-Investments: Choosing a Mutual Fund	133
	Solutions to Concept Checks	133

Summary	58
Key Terms	59
Websites	59
Problems	60
Standard and Poor's	63
E-Investments:	
Security Prices and Returns	63
Solutions to Concept Checks	63

CHAPTER 3 65

HOW SECURITIES ARE TRADED

3.1	How Firms Issue Securities	66
	Investment Bankers and Underwriting	66
	Shelf Registration	68
	Private Placements	68
	Initial Public Offerings	68
3.2	Where Securities Are Traded	71
	The Secondary Markets	72
	The Over-the-Counter Market	73
	The Third and Fourth Markets	75
	The National Market System	76
	Bond Trading	77
3.3	Trading on Exchanges	77
	The Participants	77
	Types of Orders	78
	Market Orders	78
	Limit Orders	78
	Specialists and the Execution of Trades	80
	Block Sales	81
	The SuperDOT System	82
	Settlement	82
3.4	Trading on the OTC Market	82
	Market Structure in Other Countries	84
	London	84
	Euronext	84
	Tokyo	85
	Globalization of Stock Markets	85
3.5	Trading Costs	86
3.6	Buying on Margin	88
3.7	Short Sales	91
3.8	Regulation of Securities Markets	94
	Government Regulation	94
	Regulatory Responses to Recent Scandals	95
	Self-Regulation and Circuit Breakers	96
	Insider Trading	98
	Summary	99
	Key Terms	100

Websites	100
Problems	101
Standard and Poor's	105
E-Investments: Short Sales	105
Solutions to Concept Checks	105

CHAPTER 4 107

MUTUAL FUNDS AND OTHER INVESTMENT COMPANIES

4.1	Investment Companies	108
4.2	Types of Investment Companies	109
	Unit Investment Trusts	109
	Managed Investment Companies	109
	Other Investment Organizations	111
	Commingled Funds	111
	Real Estate Investment Trusts (REITS)	111
	Hedge Funds	111
4.3	Mutual Funds	112
	Investment Policies	112
	Money Market Funds	112
	Equity Funds	112
	Bond Funds	113
	International Funds	113
	Balanced and Income Funds	113
	Asset Allocation and Flexible Funds	113
	Index Funds	113
	How Funds Are Sold	115
4.4	Costs of Investing in Mutual Funds	116
	Fee Structure	116
	Front-End Load	116
	Back-End Load	116
	Operating Expenses	116
	2b-1 Charges	116
	Fees and Mutual Fund Returns	117
4.5	Taxation of Mutual Fund Income	119
4.6	Exchange-Traded Funds	120
4.7	Mutual Fund Investment Performance: A First Look	122
4.8	Information on Mutual Funds	125
	Summary	129
	Key Terms	129
	Websites	130
	Problems	131
	Standard and Poor's	133
	E-Investments: Choosing a Mutual Fund	133
	Solutions to Concept Checks	133

PART TWO 135

PORTFOLIO THEORY

CHAPTER 5 137

HISTORY OF INTEREST RATES AND RISK PREMIUMS

- 5.1 Determinants of the Level of Interest Rates 138
 - Real and Nominal Rates of Interest 138
 - The Equilibrium Real Rate of Interest 139
 - The Equilibrium Nominal Rate of Interest 140
 - Bills and Inflation, 1963–2002 141
 - Taxes and the Real Rate of Interest 142
- 5.2 Risk and Risk Premiums 142
- 5.3 The Historical Record 144
 - Bills, Bonds, and Stocks, 1926–2002 144
- 5.4 Real Versus Nominal Risk 150
- 5.5 Return Distributions and Value at Risk 151
- 5.6 A Global View of the Historical Record 154
- 5.7 Forecasts for the Long Haul 154
 - Summary 156
 - Key Terms 157
 - Websites 157
 - Problems 158
 - Standard and Poor's 162
 - E-Investments: Analytics Tutorial 162
 - Solutions to Concept Checks 162
 - Appendix: Continuous Compounding 162

CHAPTER 6 165

RISK AND RISK AVERSION

- 6.1 Risk and Risk Aversion 166
 - Risk with Simple Prospects 166
 - Risk, Speculation, and Gambling 167
 - Risk Aversion and Utility Values 168
- 6.2 Portfolio Risk 173
 - Asset Risk versus Portfolio Risk 173
 - A Review of Portfolio Mathematics 174
 - Rule 1 174
 - Rule 2 174
 - Rule 3 175
 - Rule 4 175
 - Rule 5 178
 - Summary 179
 - Key Terms 179
 - Websites 179
 - Problems 180

- Standard and Poor's 182
- E-Investments: Risk and Return 182
- Solutions to Concept Checks 182
- Appendix A: A Defense of Mean-Variance Analysis 184
- Appendix B: Risk Aversion, Expected Utility, and the St. Petersburg Paradox 191

CHAPTER 7 197

CAPITAL ALLOCATION BETWEEN THE RISKY ASSET AND THE RISK-FREE ASSET

- 7.1 Capital Allocation across Risky and Risk-Free Portfolios 198
- 7.2 The Risk-Free Asset 200
- 7.3 Portfolios of One Risky Asset and One Risk-Free Asset 201
- 7.4 Risk Tolerance and Asset Allocation 205
- 7.5 Passive Strategies: The Capital Market Line 210
 - Summary 214
 - Key Terms 214
 - Websites 215
 - Problems 215
 - Standard and Poor's 219
 - E-Investments: The S&P 500 219
 - Solutions to Concept Checks 219

CHAPTER 8 223

OPTIMAL RISKY PORTFOLIOS

- 8.1 Diversification and Portfolio Risk 224
- 8.2 Portfolios of Two Risky Assets 225
- 8.3 Asset Allocation with Stocks, Bonds, and Bills 234
 - The Ultimate Risky Portfolio with Two Risky Assets and a Risk-Free Asset 235
- 8.4 The Markowitz Portfolio Selection Model 240
 - Security Selection 240
- 8.5 The Spreadsheet Model 246
 - Calculation of Expected Return and Variance 246
 - Capital Allocation and the Separation Property 251
 - Asset Allocation and Security Selection 253
- 8.6 Optimal Portfolios with Restrictions on the Risk-Free Asset 254
 - Summary 258
 - Key Terms 259

Websites	259
Problems	260
E-Investments: Risk Comparisons	266
Solutions to Concept Checks	266
Appendix A:	
The Power of Diversification	269
Appendix B:	
The Insurance Principle:	
Risk-sharing versus Risk-Pooling	272
Appendix C:	
The Fallacy of Time Diversification	274

PART THREE 279

EQUILIBRIUM IN CAPITAL MARKETS

CHAPTER 9 281

THE CAPITAL ASSET PRICING MODEL

9.1 The Capital Asset Pricing Model	281
Why Do All Investors Hold the Market Portfolio?	283
The Passive Strategy Is Efficient	285
The Risk Premium of the Market Portfolio	285
Expected Returns on Individual Securities	286
The Security Market Line	289
9.2 Extensions of the APM	292
The CAPM with Restricted Borrowing: The Zero-Beta Model	293
Lifetime Consumption and the CAPM	297
9.3 The CAPM and Liquidity	297
Summary	303
Key Terms	304
Websites	304
Problems	304
Standard and Poor's	309
E-Investments: Beta Comparisons	309
Solutions to Concept Checks	310
Appendix: Demand for Stocks and Equilibrium Prices	311

CHAPTER 10 317

INDEX MODELS

10.1 A Single-Index Security Market	318
Systematic Risk versus Firm-Specific Risk	318

Estimating the Index Model	321
The Index Model and Diversification	324
10.2 The CAPM and the Index Model	326
Actual Returns versus Expected Returns	326
The Index Model and Realized Returns	326
The Index Model and the Expected Return–Beta Relationship	327
10.3 The Industry Version of the Index Model	329
Predicting Betas	333
10.4 Index Models and Tracking Portfolios	334
Summary	336
Key Terms	336
Websites	336
Problems	336
Standard and Poor's	340
E-Investments: Comparing Volatilities and Beta Coefficients	340
Solutions to Concept Checks	341

CHAPTER 11 343

ARBITRAGE PRICING THEORY AND MULTIFACTOR MODELS OF RISK AND RETURN

11.1 Multifactor Models: An Overview	344
Factor Models of Security Returns	344
A Multifactor Security Market Line	346
11.2 Arbitrage Pricing Theory	348
Arbitrage, Risk Arbitrage, and Equilibrium	349
Well-Diversified Portfolios	350
Beta and Expected Returns	351
The One-Factor Security Market Line	353
11.3 Individual Assets and the APT	355
The APT and the CAPM	356
11.4 A Multifactor APT	356
11.5 Where Should We Look for Factors?	358
11.6 A Multifactor CAPM	361
Summary	362
Key Terms	363
Websites	363
Problems	363
Standard and Poor's	367
E-Investments: APT versus CAPM	368
Solutions to Concept Checks	368

CONTENTS

CHAPTER 12 369

MARKET EFFICIENCY AND BEHAVIORAL FINANCE

- 12.1 Random Walks and the Efficient Market Hypothesis 370
 - Competition as the Source of Efficiency 372
 - Versions of the Efficient Market Hypothesis 373
- 12.2 Implications of the EMH 373
 - Technical Analysis 373
 - Fundamental Analysis 377
 - Active versus Passive Portfolio Management 378
 - The Role of Portfolio Management in an Efficient Market 380
 - Resource Allocation 380
- 12.3 Event Studies 381
- 12.4 Are Markets Efficient? 384
 - The Issues 384
 - The Magnitude Issue 384
 - The Selection Bias Issue 385
 - The Lucky Event Issue 385
 - Weak-Form Tests: Patterns in Stock Returns 386
 - Returns over Short Horizons 386
 - Returns over Long Horizons 387
 - Predictors of Broad Market Returns 388
 - Semistrong Tests: Market Anomalies 388
 - The Small-Firm-in-January effect 389
 - The Neglected-Firm Effect and Liquidity Effects 391
 - Book-to-Market Ratios 391
 - Post-Earnings-Announcement Price Drift 392
 - Strong-Form Tests: Inside Information 394
 - Interpreting the Evidence 394
 - Risk Premiums or Inefficiencies? 394
 - Anomalies or Data Mining? 396
- 12.5 A Behavioral Interpretation 396
 - Information Processing 397
 - Forecasting Errors 397
 - Overconfidence 397
 - Conservatism 398
 - Sample-Size Neglect and Representativeness 398
 - Behavioral Biases 398
 - Framing 398
 - Mental Accounting 398

Regret Avoidance 399

Limits to Arbitrage 399

Fundamental Risk 399

Implementation Costs 400

Model Risk 400

Evaluating the Behavioral Critique 400

12.6 Mutual Fund Performance 401

So, Are Markets Efficient? 405

Summary 405

Key Terms 406

Websites 406

Problems 407

Standard and Poor's 413

E-Investments:

Efficient Markets and Insider Trading 413

Solutions to Concept Checks 413

CHAPTER 13 415

EMPIRICAL EVIDENCE ON SECURITY RETURNS

- 13.1 The Index Model and the Single-Factor APT 416
 - The Expected Return-Beta Relationship 416
 - Setting Up the Sample Data 417
 - Estimating the SCL 417
 - Estimating the SML 417
 - Tests of the CAPM 418
 - The Market Index 419
 - Measurement Error in Beta 422
 - The EMH and the CAPM 424
 - Accounting for Human Capital and Cyclical Variations in Asset Betas 424
- 13.2 Tests of Multifactor CAPM and APT 426
 - A Macro Factor Model 426
- 13.3 The Fama-French Three-Factor Model 429
- 13.4 Time-Varying Volatility 432
- 13.5 The Equity Premium Puzzle 435
 - Expected versus Realized Returns 435
 - Survivorship Bias 437
- 13.6 Survivorship Bias and Tests of Market Efficiency 438
 - Summary 441
 - Key Terms 441
 - Websites 441
 - Problems 442
 - Standard and Poor's 444
 - E-Investments: Portfolio Theory 444
 - Solutions to Concept Checks 444

PART FOUR 445

FIXED-INCOME SECURITIES

CHAPTER 14 447

BOND PRICES AND YIELDS

- 14.1 Bond Characteristics 448
 - Treasury Bonds and Notes 448
 - Accrued Interest and Quoted Bond Prices 450
 - Corporate Bonds 450
 - Call Provisions on Corporate Bonds 451
 - Convertible Bonds 452
 - Puttable Bonds 452
 - Floating-Rate Bonds 452
 - Preferred Stock 452
 - Other Issuers 453
 - International Bonds 453
 - Innovation in the Bond Market 453
 - Inverse Floaters 454
 - Asset-Backed Bonds 454
 - Catastrophe Bonds 454
 - Indexed Bonds 454
- 14.2 Bond Pricing 455
 - Bond Pricing between Coupon Dates 458
- 14.3 Bond Yields 459
 - Yield to Maturity 459
 - Yield to Call 462
 - Realized Compound Yield versus Yield to Maturity 464
- 14.4 Bond Prices over Time 466
 - Yield to Maturity versus Holding-Period Return 468
 - Zero-Coupon Bonds 468
 - After-Tax Returns 469
- 14.5 Default Risk and Bond Pricing 471
 - Junk Bonds 471
 - Determinants of Bond Safety 471
 - Bond Indentures 474
 - Sinking Funds 474
 - Subordination of Further Debt 475
 - Dividend Restrictions 475
 - Collateral 476
 - Yield to Maturity and Default Risk 477
- Summary 478
- Key Terms 479
- Websites 479
- Problems 480

- Standard and Poor's 485
- E-Investments: Credit Spreads 485
- Solutions to Concept Checks 485

CHAPTER 15 487

THE TERM STRUCTURE OF INTEREST RATES

- 15.1 The Term Structure Under Certainty 488
 - Bond Pricing 488
 - Bond Stripping and Pricing of Coupon Bonds 491
 - Holding-Period Returns 492
 - Forward Rates 493
- 15.2 Interest Rate Uncertainty and Forward Rates 495
- 15.3 Theories of the Term Structure 497
 - The Expectations Hypothesis 497
 - Liquidity Preference 497
- 15.4 Interpreting the Term Structure 498
- 15.5 Forward Rates as Forward Contracts 503
- 15.6 Measuring the Term Structure 505
 - Summary 509
 - Key Terms 509
 - Websites 509
 - Problems 510
 - E-Investments: Expectations and Term Spreads 516
 - Solutions to Concept Checks 516

CHAPTER 16 519

MANAGING BOND PORTFOLIOS

- 16.1 Interest Rate Risk 520
 - Interest Rate Sensitivity 520
 - Duration 523
 - What Determines Duration? 527
 - Rule 1 for Duration 528
 - Rule 2 for Duration 528
 - Rule 3 for Duration 528
 - Rule 4 for Duration 529
 - Rule 5 for Duration 529
 - Rule 6 for Duration 530
 - Rule 7 for Duration 530
 - Rule 8 for Duration 530
- 16.2 Convexity 531
 - Why Do Investors Like Convexity? 534
 - Duration and Convexity of Callable Bonds 534

16.3	Passive Bond Management	536
	Bond-Index Funds	537
	Immunization	538
	Cash Flow Matching and Dedication	546
	Other Problems with Conventional Immunization	546
16.4	Active Bond Management	547
	Sources of Potential Profit	547
	Horizon Analysis	548
	Contingent Immunization	549
16.5	Interest Rate Swaps	551
	Swaps and Balance Sheet Restructuring	552
	The Swap Dealer	552
16.6	Financial Engineering and Interest Rate Derivatives	553
	Summary	555
	Key Terms	556
	Websites	556
	Problems	557
	Standard and Poor's	566
	E-Investments: Bond Calculations	566
	Solutions to Concept Checks	566

PART FIVE 569

SECURITY ANALYSIS

CHAPTER 17 571

MACROECONOMIC AND INDUSTRY ANALYSIS

17.1	The Global Economy	572
17.2	The Domestic Economy	574
17.3	Demand and Supply Shocks	576
17.4	Federal Government Policy	576
	Fiscal Policy	577
	Monetary Policy	578
	Supply-Side Policies	579
17.5	Business Cycles	579
	The Business Cycle	579
	Economic Indicators	581
17.6	Industry Analysis	585
	Defining an Industry	586
	Sensitivity to the Business Cycle	587
	Sector Rotation	590
	Industry Life Cycles	591
	Start-Up Stage	592
	Consolidation Stage	592

	Maturity Stage	592
	Relative Decline	593
	Industry Structure and Performance	594
	Threat of Entry	594
	Rivalry between Existing Competitors	594
	Pressure from Substitute Products	594
	Bargaining Power of Buyers	594
	Bargaining Power of Suppliers	595
	Summary	595
	Key Terms	595
	Websites	595
	Problems	596
	Standard and Poor's	602
	E-Investments: The Macroeconomy	602
	Solutions to Concept Checks	602

CHAPTER 18 605

EQUITY VALUATION MODELS

18.1	Valuation by Companies	606
	Limitations of Book Value	607
18.2	Intrinsic Value versus Market Price	608
18.3	Dividend Discount Models	609
	The Constant-Growth DDM	611
	Convergence of Price to Intrinsic Value	614
	Stock Prices and Investment Opportunities	615
	Life Cycles and Multistage Growth Models	618
	Multistage Growth Models	622
18.4	Price-Earnings Ratio	622
	The Price-Earnings Ratio and Growth Opportunities	622
	P/E Ratios and Stock Risk	626
	Pitfalls in P/E Analysis	627
	Combining P/E Analysis and the DDM	631
	Other Comparative Valuation Ratios	632
	Price-to-Book Ratio	632
	Price-to-Cash-Flow Ratio	632
	Price-to-Sales Ratio	633
18.5	Corporate Finance and the Free Cash Flow Approach	634
18.6	Inflation and Equity Valuation	636
18.7	The Aggregate Stock Market	639
	Explaining Past Behavior	639
	Forecasting the Stock Market	640

Summary	642
Key Terms	643
Websites	643
Problems	644
Standard and Poor's	651
E-Investments: Equity Valuation	652
Solutions to Concept Checks	652

CHAPTER 19 655

FINANCIAL STATEMENT ANALYSIS

19.1 The Major Financial Statements	656
The Income Statement	656
The Balance Sheet	657
The Statement of Cash Flows	658
19.2 Accounting versus Economic Earnings	659
19.3 Return on Equity	660
Past versus Future ROE	661
Financial Leverage and ROE	662
19.4 Ratio Analysis	664
Decomposition of ROE	664
Turnover and Other Asset Utilization Ratios	665
Liquidity and Coverage Ratios	667
Market Price Ratios	667
Choosing a Benchmark	670
19.5 Economic Value Added	671
19.6 An Illustration of Financial Statement Analysis	672
19.7 Comparability Problems	674
Inventory Valuation	674
Depreciation	675
Inflation and Interest Expense	676
Quality of Earnings	676
International Accounting Conventions	679
19.8 Value Investing:	
The Graham Technique	680
Summary	681
Key Terms	682
Websites	682
Problems	683
Standard and Poor's	692
E-Investments:	
Financial Statement Analysis	693
Solutions to Concept Checks	693

PART SIX 695

OPTIONS, FUTURES, AND OTHER DERIVATIVES

CHAPTER 20 697

OPTIONS MARKETS: INTRODUCTION

20.1 The Option Contract	698
Options Trading	700
American and European Options	702
Adjustments in Option Contract Terms	702
The Option Clearing Corporation	702
Other Listed Options	703
Index Options	703
Futures Options	705
Foreign Currency Options	705
Interest Rate Options	705
20.2 Values of Options at Expiration	705
Call Options	705
Put Options	707
Option versus Stock Investments	709
20.3 Option Strategies	711
Protective Put	711
Covered Calls	713
Straddle	715
Spreads	716
Collars	716
20.4 The Put-Call Parity Relationship	719
20.5 Optionlike Securities	721
Callable Bonds	721
Convertible Securities	723
Warrants	725
Collateralized Loans	726
Levered Equity and Risky Debt	727
20.6 Financial Engineering	728
20.7 Exotic Options	731
Asian Options	731
Barrier Options	731
Lookback Options	731
Currency-Traded Options	731
Binary Options	732
Summary	732
Key Terms	732
Websites	732
Problems	733
Standard and Poor's	740
E-Investments: Options and Straddles	740
Solutions to Concept Checks	740

CHAPTER 21 745

OPTION VALUATION

- 21.1 Option Valuation: Introduction 746
 - Intrinsic and Time Values 746
 - Determinants of Option Values 747
- 21.2 Restrictions on Option Values 748
 - Restrictions on the Value of a Call Option 749
 - Early Exercise and Dividends 751
 - Early Exercise of American Puts 751
- 21.3 Binomial Option Pricing 752
 - Two-State Option Pricing 752
 - Generalizing the Two-State Approach 755
- 21.4 Black-Scholes Option Valuation 758
 - The Black-Scholes Formula 759
 - Dividends and Call Option Valuation 765
 - Put Option Valuation 766
- 21.5 Using the Black-Scholes Formula 767
 - Hedge Ratios and the Black-Scholes Formula 767
 - Portfolio Insurance 770
 - Hedging Bets on Mispriced Options 774
- 21.6 Empirical Evidence on Option Pricing 778
 - Summary 779
 - Key Terms 780
 - Websites 780
 - Problems 781
 - Standard and Poor's 787
 - E-Investments: Black-Scholes Option Pricing 788
 - Solutions to Concept Checks 788

CHAPTER 22 791

FUTURES MARKETS

- 22.1 The Futures Contract 792
 - The Basics of Futures Contracts 792
 - Existing Contracts 796
- 22.2 Mechanics of Trading in Futures Markets 796
 - The Clearinghouse and Open Interest 796
 - Marking to Market and the Margin Account 799
 - Cash versus Actual Delivery 801
 - Regulations 802
 - Taxation 802
- 22.3 Futures Markets Strategies 802
 - Hedging and Speculation 802
 - Basis Risk and Hedging 805

- 22.4 The Determination of Futures Prices 806
 - The Spot-Futures Parity Theorem 806
 - Spreads 809
 - Forward versus Futures Pricing 810
- 22.5 Futures Prices versus Expected Spot Prices 811
 - Expectation Hypothesis 811
 - Normal Backwardation 812
 - Contango 812
 - Modern Portfolio Theory 812
 - Summary 813
 - Key Terms 814
 - Websites 814
 - Problems 815
 - Standard and Poor's 817
 - E-Investments: Contract Specifications for Financial Futures and Options 818
 - Solutions to Concept Checks 818

CHAPTER 23 821

FUTURES AND SWAPS: A CLOSER LOOK

- 23.1 Foreign Exchange Futures 822
 - The Markets 822
 - Interest Rate Parity 822
 - Direct versus Indirect Quotes 826
 - Using Futures to Manage Exchange Rate Risk 826
- 23.2 Stock Index Futures 829
 - The Contracts 829
 - Creating Synthetic Stock Positions: An Asset Allocation Tool 830
 - Empirical Evidence on Pricing of Stock-Index Futures 832
 - Index Arbitrage and the Triple-Witching Hour 834
 - Using Index Futures to Hedge Market Risk 835
- 23.3 Interest Rate Futures 837
 - Hedging Interest Rate Risk 837
 - Other Interest Rate Futures 839
- 23.4 Commodity Futures Pricing 840
 - Pricing with Storage Costs 840
 - Discounted Cash Flow Analysis for Commodity Futures 843
- 23.5 Swaps 844
 - Swap Pricing 846
 - Credit Risk in the Swap Market 847
 - Swap Variations 848

Summary	849
Key Terms	850
Websites	850
Problems	851
Standard and Poor's	856
E-Investments:	
Describing Different Swaps	856
Solutions to Concept Checks	857

PART SEVEN 859

ACTIVE PORTFOLIO MANAGEMENT

CHAPTER 24 861

PORTFOLIO

PERFORMANCE EVALUATION

24.1 Measuring Investment Returns	862
Time-Weighted Returns versus Dollar-Weighted Returns	862
Arithmetic versus Geometric Averages	863
24.2 The Conventional Theory of Performance Evaluation	866
The M2 Measure of Performance (M^2)	869
Sharpe's Measure as the Criterion for Overall Portfolios	870
Appropriate Performance Measures in Three Sections	871
Jane's Portfolio Represents Her Entire Risky Investment Fund	871
Jane's Portfolio Is an Active Portfolio and Is Mixed with a Passive Market Index	872
Jane's Choice Portfolio Is One of Many Portfolios Combined into a Large Investment Fund	872
Relationships among the Various Performance Measures	874
Actual Performance Measurement: An Example	875
Realized Returns versus Expected Returns	875
24.3 Performance Measurement with Changing Portfolio Composition	877
24.4 Market Timing	879
24.5 Performance Attribution Procedures	881
Asset Allocation Decisions	883
Sector and Security Selection Decisions	884
Summing Up Component Contributions	885
24.6 Style Analysis	886

24.7 Morningstar's Risk-Adjusted Rating	889
24.8 Evaluating Performance Evaluation	890
Summary	892
Key Terms	893
Websites	893
Problems	894
Standard and Poor's	901
E-Investments:	
Performance of Mutual Funds	902
Solutions to Concept Checks	902

CHAPTER 25 905

INTERNATIONAL DIVERSIFICATION

25.1 Global Markets for Equities	906
Developed Countries	906
Emerging Markets	906
Market Capitalization and GDP	908
Home-Country Bias	910
25.2 Risk Factors in International Investing	910
Exchange Rate Risk	910
Country-Specific Risk	914
25.3 International Investing: Risk, Return, and Benefits from Diversification	917
Risk and Return: Summary Statistics	918
Are Investments in Emerging Markets Riskier?	918
Are Average Returns in Emerging Markets Greater?	918
Is Exchange Rate Risk Important in International Portfolios?	920
Benefits from International Diversification	921
Misleading Representation of Diversification Benefits	922
Realistic Benefits from International Diversification	925
Are Benefits from International Diversification Preserved in Bear Markets?	927
25.4 International Investing and Performance Attribution	927
Constructing a Benchmark Portfolio of Foreign Assets	928
Performance Attribution	929
Summary	932
Key Terms	932
Websites	933
Problems	933

CONTENTS

Standard and Poor's 937

E-Investments:

International Diversification 937

Solutions to Concept Checks 937

CHAPTER 26 939

THE PROCESS OF

PORTFOLIO MANAGEMENT

26.1 Making Investment Decisions 940

Objectives 940

Individual Investors 942

Personal Trusts 942

Mutual Funds 942

Pension Funds 942

Endowment Funds 942

Life Insurance Companies 942

Non-Life Insurance Companies 943

Banks 943

26.2 Constraints 943

Liquidity 944

Investment Horizon 944

Regulations 944

Tax Considerations 944

Unique Needs 944

26.3 Asset Allocation 946

Policy Statements 947

Taxes and Asset Allocation 947

26.4 Managing Portfolios of

Individual Investors 948

Human Capital and Insurance 948

Investment in Residence 949

Saving for Retirement and the
Assumption of Risk 949

Retirement Planning Models 950

Manage Your Own Portfolio
or Rely on Others? 950

Tax Sheltering 952

The Tax-Deferral Option 952

Tax-Deferred Retirement Plans 953

Deferred Annuities 953

Variable and Universal

Life Insurance 954

26.5 Pension Funds 955

Defined Contribution Plans 955

Defined Benefit Plans 956

Alternative Perspectives on Defined

Benefit Pension Obligations 956

Pension Investment Strategies 957

Investing in Equities 958

Wrong Reasons to Invest in Equities 959

26.6 Future Trends in Portfolio Management 960

Summary 961

Key Terms 962

Websites 962

Problems 963

E-Investments: Personal Diversification 973

Solutions to Concept Checks 973

Appendix:

A Spreadsheet Model for

Long-Term Investing 974

CHAPTER 27 981

THE THEORY OF

ACTIVE PORTFOLIO MANAGEMENT

27.1 The Lure of Active Management 982

27.2 Objectives of Active Portfolios 983

27.3 Market Timing 984

Valuing Market Timing as an Option 986

The Value of Imperfect Forecasting 987

27.4 Security Selection:

The Treynor-Black Model 988

Overview of the Treynor-Black Model 988

Portfolio Construction 989

27.5 Multifactor Models and

Active Portfolio Management 995

27.6 Imperfect Forecasts of Alpha Values
and the Use of the Treynor-Black Model
in Industry 996

Summary 998

Key Terms 999

Problems 999

Solutions to Concept Checks 1002

APPENDIX A 1005

Quantitative Review

APPENDIX B 1043

References to CFA Questions

APPENDIX C 1047

Glossary

NAME INDEX 1061

SUBJECT INDEX 1065