<table>
<thead>
<tr>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
</tr>
<tr>
<td>About the Authors</td>
</tr>
</tbody>
</table>

**CHAPTER 1**

**Time Value of Money**

- Future Value of a Single Cash Flow 1
- Present Value of a Single Cash Flow 4
- Compounding/Discounting When Interest Is Paid
  - More Than Annually 8
- Future and Present Values of an Ordinary Annuity 10
- Yield (Internal Rate of Return) 20
- Concepts Presented in this Chapter 26
- Appendix: Compounding and Discounting in Continuous Time 27
- Questions 31

**CHAPTER 2**

**Yield Curve Analysis: Spot Rates and Forward Rates**

- A Bond Is a Package of Zero-Coupon Instruments 33
- Theoretical Spot Rates 34
- Forward Rates 44
- Dynamics of the Yield Curve 57
- Concepts Presented in this Chapter 60
- Questions 60

**CHAPTER 3**

**Day Count Conventions and Accrued Interest**

- Day Count Conventions 63
- Computing the Accrued Interest 74
- Concepts Presented in this Chapter 76
- Questions 76
**CHAPTER 4**

**Valuation of Option-Free Bonds**

- General Principles of Valuation
- Determining a Bond's Value
- The Price/Discount Rate Relationship
- Time Path of Bond
- Valuing a Zero-Coupon Bond
- Valuing a Bond Between Coupon Payments
- Traditional Approach to Valuation
- The Arbitrage-Free Valuation Approach
- Concepts Presented in this Chapter
- Questions

**CHAPTER 5**

**Yield Measures**

- Sources of Return
- Traditional Yield Measures
- Yield to Call
- Yield to Put
- Yield to Worst
- Cash Flow Yield
- Portfolio Yield Measures
- Yield Measures for U.S. Treasury Bills
- Yield Spread Measures Relative to a Spot Rate Curve
- Concepts Presented in this Chapter
- Appendix: Mathematics of the Internal Rate of Return
- Questions

**CHAPTER 6**

**Analysis of Floating Rate Securities**

- General Features of Floaters
- Valuing a Risky Floater
- Valuation of Floaters with Embedded Options
- Margin Measures
- Concepts Presented in this Chapter
- Questions

**CHAPTER 7**

**Valuation of Bonds with Embedded Options**

- Overview of the Valuation of Bonds with Embedded Options
- Option-Adjusted Spread and Option Cost
Contents

Lattice Model 172
Binomial Model 175
Illustration 196
Concepts Presented in this Chapter 198
Questions 198

CHAPTER 8
Cash Flow for Mortgage-Backed Securities and Amortizing Asset-Backed Securities 199
Cash Flow of Mortgage-Backed Securities 199
Amortizing Asset-Backed Securities 238
Concepts Presented in this Chapter 242
Questions 244

CHAPTER 9
Valuation of Mortgage-Backed and Asset-Backed Securities 247
Static Cash Flow Yield Analysis 247
Monte Carlo Simulation/OAS 249
Concepts Presented in this Chapter 270
Questions 270

CHAPTER 10
Analysis of Convertible Bonds 273
General Characteristics of Convertible Bonds 273
Tools for Analyzing Convertibles 276
Call and Put Features 278
Convertible Bond Arbitrage 279
Other Types of Convertibles 283
Concepts Presented in this Chapter 285
Questions 285

CHAPTER 11
Total Return 287
Computing the Total Return 287
OAS-Total Return 290
Total Return to Maturity 291
Total Return for a Mortgage-Backed Security 299
Portfolio Total Return 301
Total Return Analysis for Multiple Scenarios 301
Concepts Presented in this Chapter 314
Questions 314
Valuing Interest Rate Swaps 424
Primary Determinants of Swap Spreads 440
Dollar Duration of a Swap 445
Concepts Presented in this Chapter 447
Questions 447

CHAPTER 17
Estimating Yield Volatility 451
Historical Volatility 451
Implied Volatility 455
Forecasting Yield Volatility 459
Concepts Presented in this Chapter 463
Questions 463

INDEX 485