BOND MARKETS, ANALYSIS, AND STRATEGIES

Global Edition

FRANK J. FABOZZI, CFA

Professor of Finance EDHEC Business School



Boston Columbus Indianapolis New York San Francisco Upper Saddle River Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montreal Toronto Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

Contents

Introduction	Preface		7	5	Factors Affecting Bond Yields and the	100
Learning Objectives Sectors of the U.S. Bond Market Overview of Stond Features Risks Associated with Investing in Bonds Overview of the Book Overview of the	•	Total Academ	11		Term Structure of Interest Rates	102
Sectors of the U.S. Bond Market Overview of Bond Features Risks Associated with Investing in Bonds Overview of the Book Questions 22 Pricing of Bonds Learning Objectives Review of Time Value of Money Pricing a Bond Complications Pricing Floating-Rate and Inverse-Floating-Rate Securities Price Quotes and Accrued Interest Key Points 41 Questions 42 Measuring Yield Learning Objectives Review of Time Value of Money Price Quotes and Accrued Interest Review of Time Value of Money Price Quotes and Accrued Interest Review of Time Value of Money Price Quotes and Accrued Interest Review of Time Value of Money Price Quotes and Accrued Interest Review of Time Value of Money Price Quotes and Accrued Interest Review of Time Value of Money Price Quotes and Accrued Interest Review of Time Value of Money Price Volatility Learning Objectives Potential Sources of a Bond's Potential Sources of a Bond's Price Volatility Learning Objectives Price Volatility Price Volatility Additional Concerns When Using Duration On not Think of Duration as a Measure of Time Approximating a Bond Portfolio's Reponsiveness to Nonparallel Changes In Interest Rates In Dala Return Accounce, In Table Approximating a Bond Portfolio's Reponsiveness to Nonparallel Changes In Interest Rates In Dala Return Price Volatility	1					
Overview of Bond Features Risks Associated with Investing in Bonds Overview of the Book Overview of the Price-Vield Relationship Overview of the Price-Vield Relationship Overview of the Overview On think of Duration as a Measure of Time Overview of the Book Overview of the Overview Overview of the Overview Overview of the Overview of the Overview of the Overview of the Overview Overview of the Overview of the Overview of the Overview of Overvie			100000			
Risks Associated with Investing in Bonds Overview of the Book Questions 22 Pricing of Bonds Learning Objectives Review of Time Value of Money Pricing a Bond Omepications Pricing Floating-Rate and Inverse-Floating-Rate Securities Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 140 Questions 150 Price Quotes and Accrued Interest Key Points 141 Questions 150 Review of the Internal Rate of Return on Any Investment Conventional Yield Measures Dollar Return Applications of the Total Return (Horizon Analysis) Galculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Price Volatility Additional Concerns When Using Duration On ont Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates 129 130 140 151 152 154 155 154 155 155 156 157 158 159 150 150 150 150 151 152 153 154 155 154 155 154 155 154 155 155 156 157 158 159 150 150 150 151 151 151 152 153 154 155 154 155 154 155 154 155 155 156 157 158 159 159 150 150 151 151 152 153 154 155 154 155 154 155 155					나 얼마에게 살아가지 아름다면 가입니다. 그렇게 하게 하십시간 사람들이 없었다.	
Overview of the Book Questions 22 Pricing of Bonds Learning Objectives Review of Time Value of Money Pricing a Bond Complications Pricing Floating-Rate and Inverse-Floating-Rate Securities Inverse-Floating-Rate Securities Review of Time Value of Money Pricing Ploating-Rate and Inverse-Floating-Rate Securities Inverse-Floating-Rate Securities Rev Points 149 Questions 150 Pricing Ploating-Rate and Inverse-Floating-Rate Securities Inverse-Floating-Rate Securities Rev Points 149 Questions 150 Pricing Ploating-Rate and Inverse-Floating-Rate Securities Inverse-Floating-Rate Securities Rev Points 149 Questions 150 Pricing Ploating-Rate and Inverse-Floating-Rate Securities Inverse-Floatin						
Questions 22 2 Pricing of Bonds Learning Objectives						129
Pricing of Bonds Learning Objectives Review of Time Value of Money Pricing a Bond Complications Pricing Floating-Rate and Inverse-Floating-Rate Securities Pricing Quotes and Accrued Interest Rev Points 41 Questions 42 Measuring Yield Learning Objectives Computing the Yield or Internal Rate of Return on Any Investment Applications of the Total Return (Horizon Analysis) Calculating Yield Changes Rev Points 65 Questions 65 Bond Price Volatility Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Pericing of Bonds Price Volatility Learning Objectives Review of the Price-Siclar Relationship Additional Concerns When Using Duration On the Think of Duration and Convexity Measure Measuring a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Ponds Interval Recurities Price Volatility Responsiveness to Nonparallel Changes in Interest Rates Price Quotes and Accrued Interest Pederal Agency Securities 136 Treasury Securities 146 Teasury Securities 146 Corporate Debt Instruments 152 Learning Objectives 152 Corporate Debt Instruments 152 Learning Objectives 163 Teasury Securities 164 Result Securities 165 Teasing Objectives 165 Corporate Debetins 126 Corporate Debt Instruments 167 Total Return 168 Teasury Securities 168 Teasing Objectives 168 Teasing Objectives 168 Teasing Objective			21		Key Points 131 Questions 132	
Learning Objectives 24 Stripped Treasury Securities 136 Review of Time Value of Money 24 Stripped Treasury Securities 146 Complications 36 Key Points 149 Questions 150 Pricing a Bond Inverse-Floating-Rate Securities 38 7 Corporate Debt Instruments 152 Rev Points 41 Questions 42 Learning Objectives 152 Key Points 41 Questions 42 Learning Objectives 153 Measuring Vield 44 Bankruptcy and Creditor Rights 154 Learning Objectives 163 Rate of Return on Any Investment 155 Conventional Yield Measures 167 Conventional Yield Measures 168 Dollar Return 156 Calculating Yield Changes 157 Calculating Yield Changes 158 Review of the Price-Yield Relationship 159 For Option-Free Bonds 159 Price Volatility 150 Measures of Bond Price Volatility 150 Convexity Measure 150 Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time 150 Approximating a Bond's Duration and 150 Convexity Measure 150 Measuring a Bond Portfolio's 150 Responsiveness to Nonparalel Changes 150 Interest Rates 150 Learning Objectives 152 Seniority of Debt in a Corporation's Capital Structure 153 Measuring Objectives 152 Learning Objectives 153 Measuring a Bond Price Volatility 150 Corporate Deal Risk 153 Corporate Default Risk 173 Corpora		ACTIVITY CONTRACTOR		6	Treasury and Federal Agency Securities	136
Review of Time Value of Money Pricing a Bond Complications Pricing Floating-Rate and Inverse-Floating-Rate and Inverse-Floating-Rate Securities Price Quotes and Accrued Interest Key Points 41 Questions 42 Measuring Vield Learning Objectives Computing the Yield or Internal Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Dollar Return Total Return (Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Mond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates 24 Stripped Treasury Securities 146 Key Points 149 Questions 150 Federal Agency Securities 146 Key Points 149 Questions 150 Federal Agency Securities 146 Key Points 149 Questions 150 Federal Agency Securities 146 Key Points 149 Questions 150 Federal Agency Securities 146 Key Points 149 Questions 150 Federal Agency Securities 146 Key Points 149 Questions 150 Federal Agency Securities 140 Key Points 149 Questions 150 Federal Agency Securities 152 Corporate Debt Instruments 152 Learning Objectives 152 Seniority of Debt in a Corporation's Capital Structure 153 Bankruptcy and Creditor Rights 154 Corporate Bonds 155 Corporate Bonds 165 Corporate Bonds 166 Medium-Term Notes 167 Bank Loons 167 Bank Loons 168 Corporate Debal Iris 167 Commercial Paper 167 Bank Loons 168 Corporate Deball Ris Corporate Default Ris Corporate Demongrade Risk 177 Bank Loons 168 Corporate Default Ris Corporate Default Ris Corporate Default Ris Corporate Default Ris Corporate Credit Spread Risk 177 Bank Loons 178 Bank Loons 179 Bank Loons 189 Corporate Default Ris Corporate D	2				Learning Objectives	136
Pricing a Bond Complications Pricing Floating-Rate and Inverse-Floating-Rate and Inverse-Floating-Rate Securities Price Quotes and Accrued Interest Exerptions 41 Questions 42 Measuring Vield Activation Any Investment Rate of Return on Any Investment Conventional Vield Measures Potential Sources of a Bond's Dollar Return (Horizon Analysis) Applications of the Total Return (Horizon Analysis) Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship of Option-Free Bonds Price Volatility Convexity Applicational Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates 38 7 Corporate Debt Instruments Learning Objectives Seriotity of Debt in a Corporation's Capital Structure 153 Abarkruptcy and Creditor Rights Learning Objectives Capital Structure 153 Bank Loans Medium-Term Notes Capital Structure 153 Bank Loans Medium-Term Notes 163 Corporate Default Risk Corporate Credit Spread Risk 177 Corporate Default Risk Corporate Credit Spread Risk 177 Corporate Default Risk Corporate Credit Spread Risk 177 Key Points 178 Questions 179 Municipal Securities 182 Learning Objectives 183 Municipal Money Market Products 184 Municipal Money Market Products 185 Municipal Bond Market 195 Non-U.S. Bond Issuers and Bond Markets 196 Non-U.S. Bond Issuers and Bond Returns 206 Poots Exchange Risk and Bond Returns 207 Price Spread Risk 177 Capital Structure 153 Bank Loans 169 Medium-Term Notes 163 Corporate Debt In a Corporation's 164 Corporate Debt In a Corporation's 165 Corporate Defourate Bonds 165 Medium-Term Notes 163 Corporate Default Risk 177 Corporate Default Risk 177 Corporate Default Risk 177 Corporate Default Risk 178 Corporate Credit Spread Risk 177 Example Tree Bonds 178 Measure of Municipal Bond Market 179 Spread Return 179 Spread Return 170 Spread Return 170 Spread Return 171 Spread Return 171 Spread Return 171 Spread Return 172 Spread Return 173					Treasury Securities	136
Pricing a Bond Complications Pricing Floating-Rate and Inverse-Floating-Rate Securities Price Quotes and Accrued Interest Key Points 41 Questions 42 Measuring Yield Learning Objectives Computing the Yield or Internal Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Potential Sources of a Bond's Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics Op Option-Free Bonds Price Volatility Additional Concerns When Using Duration Ponot Think of Duration as a Measure of Time Approximating a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates 152 Corporate Debt in a Corporation's Capital Structure 153 Seniority of Debt in a Corporation 154 Learning Objective Seniority of Debt in a Corporation's Capital Structure 153 Seniority of Debt in a Corporation's Capital Structure 154 Bank Turcture 155 Bank Loans 166 Corporate Bonds 156 Commercial Paper 167 Commercial Paper 168 Bank Loans 169 Bank Loans 169 Bank Loans 169 Bank Loans 177 Corporate Default Risk 178 Corporate Default Risk 179 Corporate Default Risk 177 Corporate Default Risk 177 Corporate Default Risk 178 Corporate Default Risk 178 Corporate Default Risk 179 Corporate Default Risk 179 Corporate Default Risk 177 Corporate Default Risk 178 Corporate Default Risk 178 Corporate Default Risk 179 Corporate Default Risk 177 Corporate Default Risk 178 Corporate Default Risk 178 Corporate Default Risk 179 Corporate Default Risk 179 Corporate Default Risk 179 Corporate Default Risk 177 Corporate Default Risk 178 Corporate Default Risk 179 Corporate Default Risk 179 Corporate Default Risk 179 Corporate Defau		Review of Time Value of Money			Stripped Treasury Securities	145
Pricing Floating-Rate and Inverse-Floating-Rate Securities Price Quotes and Accrued Interest Key Points 41 Questions 42 Measuring Yield Learning Objectives Computing the Vield or Internal Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Dollar Return Applications of the Total Return (Horizon Analysis) Calculating Yield Changes Review of the Price-Vield Relationship for Option-Free Bonds Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Corporate Debt Instruments 152 Corporate Debt In a Corporation Size Learning Objectives Seniority of Debt in a Corporation of Seniority of Debt in a Corporation's Learning Objectives Seniority of Debt in a Corporation's Capital Structure 153 Sankruptcy and Creditor Rights 154 Bankruptcy and Creditor Rights 155 Comporate Bonds Medium-Term Notes 163 Medium-Term Notes 164 Corporate Debt in a Corporation's Capital Structure 153 Bankruptcy and Creditor Rights 154 Comporate Bonds 165 Corporate Debt in a Corporation's Capital Structure 153 Bankruptcy and Creditor Rights 154 Bankruptcy and Creditor Rights 155 Commercial Paper 167 Corporate Debt in a Corporation's Capital Structure 153 Bankruptcy and Creditor Rights 154 Bankruptcy and Creditor Rights 155 Comporate Debt in a Corporation's Capital Structure 153 Bankruptcy and Creditor Rights 154 Corporate Debt in a Corporation's Corporate Debt in a Corporation's Corporate Debt in a Corporation's Capital Structure 153 Bankruptcy and Creditor Rights 154 Bankruptcy and Creditor Rights 154 Corporate Debt in a Corporate Defuitor Rights 155 Commercial Paper 167 Corporate Debt Instructure 168 Bank Learn Notes 168 Bank Learn Notes 169 Corporate Debund Frew Notes 168 Bank Learn Notes 169 Corporate Debund Frew Downgrade Risk 177 Corporate Debunds Risk 177 Corporate Debundgrade Risk 177 Corporate Debundgrade Risk 177 Corporate Debundgrade Risk 177 Corporate Debundgrade R		Pricing a Bond				146
Inverse-Floating-Rate Securities 38 7 Corporate Debt Instruments 152 Price Quotes and Accrued Interest 40 Learning Objectives 55 8 Measuring Yield 1 Questions 42 5 Seniority of Debt in a Corporation's Capital Structure 153 8 Measuring Yield 44 Corporate Bonds 156 Computing the Yield or Internal 45 Comporate Bonds 156 Computing the Yield of Internal 46 Corporate Bonds 156 Conventional Yield Measures 48 Bank Loans 169 Potential Sources of a Bond's 167 Dollar Return 169 Dollar Return 169 Calculating Yield Changes 167 Calculating Yield Changes 168 Review of the Trice-Yield Relationship 167 Option-Free Bonds 169 Price Volatility 160 Residency 160 Residenc			36		Key Points 149 Questions 150	
Price Quotes and Accrued Interest Key Points 41 Questions 42 Measuring Yield Learning Objectives Computing the Yield or Internal Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Dollar Return Total Return Applications of the Total Return (Horizon Analysis) Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship of Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Additional Concerns When Using Duration Do not Think of Duration as a Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Measures of Dolectives Responsiveness to Nonparallel Changes in Interest Rates Learning Objectives Seniority of Debt in a Corporation's Capital Structure Seniority of Debt in a Corporation's Capital Structure Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Capital Structure is Seniority of Debt in a Corporation's Corporate Deditor Rights Medium-Term Notes Medium-Term Notes Corporate Dends Medium-Term Notes Corporate Dends 177 Corporate Dendul Risk 173 Corporate Dendul Risk 173 Corporate Dendul Risk 173 Corporate Dendul Risk 177 Corporate Dendul Risk 177 Corporate Dendul Risk 177 Corporate Dendul Risk 177 Medium-Term Notes Corporate Dendul Risk 177 Corporate Dendul Risk 177 Corporate Dendul Risk 177 Corporate Dendul Risk 177 Measuring Objectives 182 Corporate Dendul Risk 177 Measuring Ob			28	7	Corporate Debt Instruments	152
Seniority of Debt in a Corporation's Capital Structure 153				3,500	트리아, 사람들이 등 기업으로 하면 때문요 있다면 경기를 보고 있었다면 보세요 나는 때문 가는 사람이 있다면 수요?	
Measuring Yield Learning Objectives Computing the Yield or Internal Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Dollar Return Total Return Total Return (Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility For Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Additional Concerns When Using Duration Op not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Medium-Tern Notes Medium-Tern Notes Medium-Tern Notes Corporate Domis Medium-Tern Notes Corporate Default Risk Corporate Default Risk Corporate Default Risk Corporate Default Risk Corporate Credit Spread Risk IT7 Corporate Credit Spread Risk IT7 Key Points 178 Questions 179 Membred Bank Loans Corporate Default Risk IT7 Corporate Credit Spread Risk IT7 Key Points 178 Questions 179 Membred Bank Loans Corporate Default Risk IT7 Corporate Default Risk IT7 Key Points 178 Questions 179 Membred Bank Loans Corporate Default Risk IT7 Key Points 178 Questions 179 Membred Bank Loans Corporate Default Risk IT7 Key Points 178 Questions 179 Municipal Securities In Municipal Money Market Products Italian Municipal Bonds Italian Medium-Tern Notes Italian Italian Medium-Tern Notes Italian Italian Medium-Tern Notes Italian Italian Medium-Tern Notes Italian It			70			
Measuring Yield Learning Objectives 44 Learning Objectives 156 Computing the Yield or Internal Rate of Return on Any Investment 45 Commercial Paper 167 Conventional Yield Measures 48 Bank Loans 169 Potential Sources of a Bond's Corporate Downgrade Risk 173 Dollar Return 59 Corporate Downgrade Risk 177 Total Return 59 Corporate Downgrade Risk 177 Corporate Credit Spread Risk 177 Corporate Credit Spread Risk 177 Corporate Credit Spread Risk 178 Questions 179 Corporate Credit Spread Risk 178 Questions 179 Calculating Yield Changes 64 8 Municipal Securities 182 Learning Objectives 182 Learning Objectives 183 Municipal Money Market Products 188 Floaters/Inverse Floaters 189 Credit Risk 190 Floaters/Inverse Floaters 189 Credit Risk 190 Floaters/Inverse Floaters 189 Risks Associated with Investing in Municipal Bonds 192 Municipal Bond Market 193 The Taxable Municipal Bond Market 195 Questions 196 Portion Free Bonds 196 Classification of Global Bond Market 195 Questions 196 Portion Floaters 196 Classification of Global Bond Market 197 Classification of Global Bond Market 197 Classification of Global Bond Market 198 Classification of Global Bond Market 199 Classification of Global Bond Returns 200 C		Key Points 41 Questions 42				153
Learning Objectives Computing the Yield or Internal Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Dollar Return Total Return Total Return (Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates 44 Corporate Bonds Medium-Term Notes Commercial Paper Commercial Paper Medium-Term Notes Medium-Term Notes Medium-Term Notes Medium-Term Notes Medium-Term Notes Medium-Term Notes Commercial Paper Medium-Term Notes Medium-Term Notes Isa Medium-Term Notes Commercial Paper Hedium-Term Notes Isa Medium-Term Notes Commercial Paper Hedium-Term Notes Isa Medium-Term Notes Isa Medium-Term Notes Commercial Paper Hedium-Term Notes Isa Medium-Term Notes Isa Corporate Default Risk Ira Respons to Responsion 179 Ira Key Points 178 Questions 179 Municipal Securities Isa Isa Municipal Money Market Products Isa M	3	Measuring Yield	44			
Computing the Yield or Internal Rate of Return on Any Investment			44			156
Rate of Return on Any Investment Conventional Yield Measures Potential Sources of a Bond's Dollar Return Dollar Return Total Return (Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility For Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Responsiveness to Nonparallel Changes in Interest Rates Responsiveness to Nonparallel Changes In Interest Rates Corporate Default Risk I73 Corporate Default Risk Corporate Default Risk I73 Corporate Default Risk I73 Corporate Default Risk I73 Corporate Default Risk I73 Corporate Default Risk I74 Corporate Default Risk I75 Corporate Default Risk I75 Corporate Default Risk I77 Key Points 178 Questions 179 Learning Objectives Foreign Exchange Risk and Bond Returns Information and Bond's Durations Corporate Credit Spread Risk I77 Corporate Default Risk I77 Exercited Spread Risk I77 Repead Retures of Municipal Risk Interest Pate Securities I88 Municipal Money Market Products I88 Hearning						
Conventional Yield Measures 48 Bank Loans 169 Potential Sources of a Bond's Corporate Default Risk 173 Dollar Return 56 Corporate Default Risk 177 Total Return 59 Corporate Credit Spread Risk 177 Applications of the Total Return (Horizon Analysis) 64 Key Points 178 Questions 179 Calculating Yield Changes 64 Municipal Securities 182 Key Points 65 Questions 65 Learning Objectives 182 Key Points 65 Questions 65 Learning Objectives 183 4 Bond Price Volatility 68 Municipal Money Market Products 188 Learning Objectives 68 Floaters/Inverse Floaters 189 Review of the Price-Yield Relationship for Option-Free Bonds 69 Risks Associated with Investing in Municipal Bonds 192 Measures of Bond Price Volatility 72 Municipal Bond Market 193 Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time 4 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206			45			
Potential Sources of a Bond's Dollar Return Dollar Return Total Return Total Return (Horizon Analysis) Galculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Corporate Credit Syread Risk Types and Features of Municipal Securities Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Price Volatility Price Volatility Characteristics Of Option-Free Bonds Price Volatility			48		장이 그러나면 존한	169
Dollar Return 56 Corporate Downgrade Risk 177 Total Return 59 Corporate Credit Spread Risk 177 Applications of the Total Return (Horizon Analysis) 64 Key Points 178 Questions 179 (Horizon Analysis) 64 Risk Rey Points 178 Questions 179 (Horizon Analysis) 64 Rey Points 65 Questions 65 Learning Objectives 182 Learning Objectives 183 Learning Objectives 184 Learning Objectives 185 Municipal Securities 183 Municipal Money Market Products 188 Learning Objectives 189 Review of the Price-Yield Relationship for Option-Free Bonds 69 Risks Associated with Investing 190 Frice Volatility Characteristics in Municipal Securities 191 Municipal Bonds 192 Measures of Bond Price Volatility 72 Municipal Bond Market 193 Measures of Bond Price Volatility 73 Municipal Bond Market 194 Municipal Bond Market 195 Municipal Bond Market 196 Municipal Bond Market 197 Municipal Bond Market 198 Municipal Bond Market		Potential Sources of a Bond's				173
Total Return Applications of the Total Return (Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measures to Nonparallel Changes in Interest Rates Proposition Structures Squares Approximating a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Page Corporate Credit Spread Risk Key Points 178 Questions 179 Key Points 178 Questions 179 Municipal Securities In Municipal Money Market Products In Municipal Money Market Products In Municipal Money Market Products In Municipal Securities In Municipal Securities In Municipal Securities In Municipal Securities In Municipal Bonds In Municipal Bonds In Municipal Bond Market In Taxable Municipal Bond Market In The Taxable Municipal Bond Market In T			56			177
Applications of the Total Return (Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Key Points 178 Questions 179 Municipal Securities 182 Municipal Money Market Products 183 Municipal Money Market Products 184 Municipal Money Market Products 185 Municipal Securities 196 Risks Associated with Investing 197 in Municipal Bonds 198 Municipal Bond Market 193 Key Points 178 Questions 179 Municipal Securities 184 Municipal Securities 185 Floaters/Inverse Floaters 186 Runicipal Money Market Products 188 Municipal Securities 188 Municipal Securities 188 Municipal Securities 189 Floaters/Inverse Floaters 189 Municipal Bonder 190 Yields on Municipal Bonds 192 Municipal Bond Market 193 Key Points 195 Questions 196 International Bonds 196 Classification of Global Bond Markets 196 Non-U.S. Bond Issuers and Bond Structures 197 Non-U.S. Bond Issuers and Bond Returns 207 Foreign Exchange Risk and Bond Returns 207 Bonds Issued by Non-U.S. Entities 208		Total Return	59			177
(Horizon Analysis) Calculating Yield Changes Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measures to Nonparallel Changes in Interest Rates Municipal Securities Types and Features of Municipal Securities 183 Municipal Money Market Products 184 Municipal Money Market Products 185 Municipal Money Market Products 185 Municipal Money Market Products 186 Municipal Money Market Products 187 Municipal Money Market Products 188 Floaters/Inverse Floaters 189 Municipal Bonders 190 Vields on Municipal Bonds 191 Municipal Bond Market 193 Municipal Bond Market 193 Municipal Bond Market 193 Municipal Bond Market 194 Municipal Bond Market 195 Measuring a Bond's Duration 196 Classification of Global Bond Markets 197 Non-U.S. Bond Issuers and Bond Structures 198 Non-U.S. Bond Issuers and Bond Returns 199 Non-U.S. Entities 180 Municipal Securities 180 Municipal Money Market Products 188 Municipal Money Market Products 189 Nersity Associated with Investing 180 Municipal Bonds 190 Vields on Municipal Bonds 192 Municipal Bond Market 193 Municipal Securities 190 Vields on Municipal Bonds 192 Municipal Bonds 192 Municipal Bond Market 193 Municipal Bond Market 193 Municipal Securities 194 Vields on Municipal Bonds 192 Municipal Securities 194 Vields on Municipal Bonds 192 Municipal Securities 194 Vields on Municipal Bonds 192 Municipal Bonds 192 Municipal Securities 194 Vields on Municipal Bonds 194 Vields on Municipal Sec		Applications of the Total Return				
Key Points 65 Questions 65 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Learning Objectives Types and Features of Municipal Securities Municipal Money Market Products 183 Municipal Money Market Products 184 Municipal Money Market Products 185 Municipal Money Market Products 185 Municipal Money Market Products 186 Municipal Money Market Products 187 Municipal Money Market Products 188 Municipal Money Market Products 190 Municipal Money Market 191 Municipal Money Market 191 Municipal Money Market 191 Municipal Money Market 191 Municipal Money		(Horizon Analysis)	64		CHARGO AVELO-SANCE SANCE ACTION OF STANCE	
A Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Types and Features of Municipal Securities Municipal Money Market Products 188 Municipal Money Market Products 188 Municipal Money Market Products 189 Municipal Money Market Products 188 Municipal Money Market Products 189 Municipal Money Market Products 189 Misks Associated with Investing 190 Wisks Associated with Investing 191 Municipal Bonds 192 Municipal Bond Market 193 Municipal Bond Market 193 Municipal Bonds 192 Municipal Bond Market 193 Municipal Bond Market 193 Municipal Bonds 192 Municipal Bonds 192 Municipal Bonds 192 Municipal Bonds 192 Municipal Bonds 193 Municipal Securities 194 Municipal Securities 194 Municipal Securities 195 Municipal Bonds 196 Vields on Municipal Bonds 192 Municipal Bonds 192 Municipal Bonds 192 Municipal Bond Market 193 Municipal Securities 194 Municipal Bonds 192 Municipal Bonds 192 Municipal Bond Market 193 Municipal Bond Market 193 Municipal Bonds 192 Municipal Bond Market 193 Municipal Bonds 192 Municipal Bonds 193 Municipal Bonds 194 Municipa		Calculating Yield Changes	64	8		
4 Bond Price Volatility Learning Objectives Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Municipal Money Market Products Hunicipal Money Market Products Housers Ilas Housers Ilas Hunicipal Bonders In Municipal Bonds In Municipal Bond Market In Municipal Bond In Municipal Bond In Municipa		Key Points 65 Questions 65				
Learning Objectives 68 Floaters/Inverse Floaters 189 Review of the Price-Yield Relationship 60 Credit Risk 190 for Option-Free Bonds 69 Risks Associated with Investing in Municipal Securities 191 Of Option-Free Bonds 70 Yields on Municipal Bonds 192 Measures of Bond Price Volatility 72 Municipal Bond Market 193 Convexity 83 The Taxable Municipal Bond Market 195 Additional Concerns When Using Duration 92 Key Points 195 Questions 196 Do not Think of Duration as a Measure of Time 92 International Bonds 198 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes in Interest Rates 95 Bonds Issued by Non-U.S. Entities 200	8	D. J. Dales Volestifes	68			
Review of the Price-Yield Relationship for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Plotters Inverse Floaters Credit Risk Risks Associated with Investing in Municipal Bonds Vields on Municipal Bonds Municipal Bond Market 193 Municipal Bond Market 193 Municipal Bond Market 195 Menuicipal	4					
for Option-Free Bonds Price Volatility Characteristics of Option-Free Bonds Measures of Bond Price Volatility Convexity Additional Concerns When Using Duration Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measures Of Convexity Measure Of Time Approximating a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Pick S Associated with Investing in Municipal Securities Nunicipal Bonds Municipal Bonds Municipal Bond Market 193 The Taxable Municipal Bond Market 195 Key Points 195 Questions 196 Possification of Global Bond Markets 198 Learning Objectives 198 Non-U.S. Bond Issuers and Bond Structures 200 Possification of Global Bond Markets 199 Non-U.S. Entities 200			00			10.000
Price Volatility Characteristics in Municipal Securities 191 of Option-Free Bonds 70 Yields on Municipal Bonds 192 Measures of Bond Price Volatility 72 Municipal Bond Market 193 Convexity 83 The Taxable Municipal Bond Market 195 Additional Concerns When Using Duration 92 Key Points 195 Questions 196 Do not Think of Duration as a Measure of Time 92 International Bonds 198 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206			69			190
of Option-Free Bonds 70 Yields on Municipal Bonds 192 Measures of Bond Price Volatility 72 Municipal Bond Market 193 Convexity 83 The Taxable Municipal Bond Market 195 Additional Concerns When Using Duration 92 Key Points 195 Questions 196 Do not Think of Duration as a Measure 92 International Bonds 198 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's 8000 Visual Portfolio's 8000						101
Measures of Bond Price Volatility 72 Municipal Bond Market 193 Convexity 83 The Taxable Municipal Bond Market 195 Additional Concerns When Using Duration 92 Key Points 195 Questions 196 Do not Think of Duration as a Measure 92 International Bonds 198 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 195 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes 195 Bonds Issued by Non-U.S. Entities 206			700			
Convexity 8.3 The Taxable Municipal Bond Market 195 Additional Concerns When Using Duration 92 Key Points 195 Questions 196 Do not Think of Duration as a Measure of Time 92 9 International Bonds 198 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes in Interest Rates 95 Bonds Issued by Non-U.S. Entities 200						
Additional Concerns When Using Duration 92 Key Points 195 Questions 196 Do not Think of Duration as a Measure of Time 92 9 International Bonds 198 Approximating a Bond's Duration and Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes in Interest Rates 95 Bonds Issued by Non-U.S. Entities 200						
Do not Think of Duration as a Measure of Time Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates New Yorks 193 Questions 196 Learning Objectives Learning Objectives 198 Classification of Global Bond Markets 199 Non-U.S. Bond Issuers and Bond Structures 200 Foreign Exchange Risk and Bond Returns 201 Bonds Issued by Non-U.S. Entities 201					중에 가게 되었다면 기계되었다. 하시 아이는 이번에 가장 하시	195
of Time 92 9 International Bonds 198 Approximating a Bond's Duration and Learning Objectives 198 Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206			-		Key Points 195 Questions 196	
Approximating a Bond's Duration and Convexity Measure Measuring a Bond Portfolio's Responsiveness to Nonparallel Changes in Interest Rates Learning Objectives 198 Classification of Global Bond Markets 199 Non-U.S. Bond Issuers and Bond Structures 200 Foreign Exchange Risk and Bond Returns 202 Bonds Issued by Non-U.S. Entities 206		The state of the s	92	9	International Bonds	198
Convexity Measure 93 Classification of Global Bond Markets 199 Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes Foreign Exchange Risk and Bond Returns 202 in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206			30.70			198
Measuring a Bond Portfolio's Non-U.S. Bond Issuers and Bond Structures 200 Responsiveness to Nonparallel Changes Foreign Exchange Risk and Bond Returns 202 in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206			93			199
Responsiveness to Nonparallel Changes Foreign Exchange Risk and Bond Returns 202 in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206			(5.20)			200
in Interest Rates 95 Bonds Issued by Non-U.S. Entities 206						202
in interest tance			95			206
		Key Points 99 Questions 100	33			

10	Residential Mortgage Loans	223		Review of Several Major Types	
	Learning Objectives	223		of Asset-Backed Securities	350
	Origination of Residential Mortgage Loans	224		Dodd-Frank Wall Street Reform and	
	Types of Residential Mortgage Loans	225		Consumer Protection Act	357
	Conforming Loans	233		Collateralized Debt Obligations	358
	Risks Associated with Investing	-7000		Key Points 360 Questions 361	330
	in Mortgage Loans	234		Ney round 500 Questions 501	
	Key Points 235 Questions 235	200	16	Interest-Rate Models	363
				Learning Objectives	363
11	Agency Mortgage Pass-Through Securities	237		Mathematical Description of	
	Learning Objectives	237		One-Factor Interest-Rate Models	364
	Sectors of the Residential			Arbitrage-Free versus Equilibrium Models	367
	Mortgage-Backed Security Market	238		Empirical Evidence on Interest-Rate Changes	369
	General Description of an Agency			Selecting an Interest-Rate Model	371
	Mortgage Pass-Through Security	239		Estimating Interest-Rate Volatility Using	600
	Issuers of Agency Pass-Through Securities	241		Historical Data	372
	Prepayment Conventions and Cash Flow	245		Key Points 375 Questions 376	372
	Factors Affecting Prepayments and	(57,050)			
	Prepayment Modeling	255	17	Analysis of Bonds with Embedded Options	377
	Cash Flow Yield	260		Learning Objectives	377
	Prepayment Risk and Asset/Liability	-00		Drawbacks of Traditional Yield	
	Management	262		Spread Analysis	378
	Secondary Market Trading	264		Static Spread: An Alternative to Yield Spread	378
	Key Points 265 Questions 266	204		Callable Bonds and Their Investment Characteristics	383
12	Agency Collateralized Mortgage			Components of a Bond with an Embedded Option	385
	Obligations and Stripped			Valuation Model	
	Mortgage-Backed Securities	269		Option-Adjusted Spread	387
	Learning Objectives	269			400
	Agency Collateralized Mortgage Obligations	270		Effective Duration and Convexity	400
	Agency Stripped Mortgage-Backed Securities			Key Points 402 Questions 403	
	Key Points 305 Questions 306	303	18	Analysis of Residential Mortgage-Backed Securities	405
13	Nonagency Residential			Learning Objectives	405
	Mortgage-Backed Securities	309		Static Cash Flow Yield Methodology	406
	Learning Objectives	309		Monte Carlo Simulation Methodology	414
	Collateral Types	311		Total Return Analysis	424
	Credit Enhancement	311		Key Points 425 Questions 426	424
	Cash Flow for Nonagency			Key Folms 425 Questions 420	
	Mortgage-Backed Securities	317	19	Analysis of Convertible Bonds	428
	Key Points 322 Questions 323	217		Learning Objectives	428
				Convertible Bond Provisions	429
14	Commercial Mortgage Loans and			Categorization of Convertible Securities	430
	Commercial Mortgage-Backed Securities	325		Basic Analytics and Concepts for	
	Learning Objectives	325		Convertible Bond Analysis	432
	Commercial Mortgage Loans	326		Option Measures	436
	Commercial Mortgage-Backed Securities	328		Profile of a Convertible Bond	438
	Types of Deals	333		Pros and Cons of Investing in a	TJO
	Key Points 337 Questions 338	2220		Convertible Bond	438
				Convertible Bond Arbitrage	440
15	Asset-Backed Securities	340			
	Learning Objectives	340		Options Approach to Valuation Key Points 443 Questions 444	442
	Creation of an Asset-Backed Security	341		Rey Points 445 Questions 444	
	Collateral Type and Securitization		20	Corporate Bond Credit Analysis	446
	Structure	346		Learning Objectives	446
	Credit Risks Associated with			Overview of Corporate Bond Credit Analysis	447
	Investing in Asset-Backed Securities	347		Analysis of Business Risk	449

	Corporate Governance Risk	450	25	Bond Performance Measurement	
	Financial Risk	452		and Evaluation	575
	Corporate Bond Credit Analysis and			Learning Objectives	575
	Equity Analysis	455		Requirements for a Bond Performance	
	Key Points 456 Questions 456			and Attribution Analysis Process	576
21	Credit Risk Modeling	458		Performance Measurement	576
67/8	Learning Objectives	458		Performance Attribution Analysis	582
	Difficulties in Credit Risk Modeling	459		Key Points 587 Questions 588	
	Overview of Credit Risk Modeling	460	26	Interest-Rate Futures Contracts	590
	Credit Ratings versus Credit Risk Models	461		Learning Objectives	590
	Structural Models	461		Mechanics of Futures Trading	591
	Estimating Portfolio Credit Risk: Default	707		Futures Versus Forward Contracts	593
	Correlation and Copulas	467		Risk and Return Characteristics of	:090
	Reduced-Form Models	468		Futures Contracts	593
	Incomplete Information Models	471		Interest-Rate Futures Contracts	594
	Key Points 471 Questions 472 -	76.1		Pricing and Arbitrage in the	394
	Rey Folms 471 Questions 472			Interest-Rate Futures Market	can
22	Bond Portfolio Management Strategies	473			600
	Learning Objectives	473		Bond Portfolio Management Applications	606
	The Asset Allocation Decision	474		Key Points 624 Questions 625	
	Portfolio Management Team	476	27	Interest-Rate Options	627
	Spectrum of Bond Portfolio Strategies	477		Learning Objectives	627
	Bond Indexes	479		Options Defined	628
	The Primary Risk Factors	481		Differences between an Option	0.887%
	Top-Down Versus Bottom-Up Portfolio			and a Futures Contract	628
	Construction and Management	482		Types of Interest-Rate Options	628
	Active Portfolio Strategies	483		Intrinsic Value and Time	020
	The Use of Leverage	500		Value of an Option	631
	Key Points 506 Questions 507	- Carteston		Profit and Loss Profiles for Simple	.002
	CONCRETE CONTROL STATE OF CONTROL CONT			Naked Option Strategies	632
23	Bond Portfolio Construction	511		Put-Call Parity Relationship and	M-2-
	Learning Objectives	511		Equivalent Positions	644
	Brief Review of Portfolio Theory and			Option Price	646
	Risk Decomposition	512		Models for Pricing Options	647
	Application of Portfolio Theory to Bond			Sensitivity of Option Price to Change in Factors	656
	Portfolio Construction	513		Hedge Strategies	660
	Tracking Error	515		Key Points 666 Questions 667	000
	Cell-Based Approach to Bond Portfolio			Rey Tomas 600 Questions 607	
	Construction	519	28	Interest-Rate Swaps, Caps, and Floors	669
	Portfolio Construction with			Learning Objectives	669
	Multi-Factor Models	521		Interest-Rate Swaps	670
	Key Points 536 Questions 536			Interest-Rate Caps and Floors	692
	of 188			Key Points 698 Questions 699	
24	Liability-Driven Strategies	541	20		
	Learning Objectives	541	29	Credit Default Swaps	702
	General Principles of Asset/Liability Management	542		Learning Objectives	702
	Immunization of a Portfolio to			Credit Events	703
	Satisfy a Single Liability	548		Single-Name CDS	706
	Structuring a Portfolio to Satisfy Multiple			Index CDS	712
	Liabilities	562		Economic Interpretation of a CDS	
	Extensions of Liability-Driven Strategies	565		and an Index CDS	714
	Combining Active and Immunization Strategies	566		Using CDSs for Controlling Credit Risk	716
	Liability-Driven Strategies for Defined			Key Points 717 Questions 718	
	Benefit Pension Funds	567			
	Key Points 569 Questions 570		Index		720