BF308 FIXED INCOME SECURITIES ANALYSIS

Course Description and Scope

The objective of this course is to provide an overview of the fixed income securities and their analyses. Because of the complex nature of the fixed income securities, this course places an extra emphasis on the understanding of the economic forces driving the fixed income securities markets and the techniques for analyzing the securities.

The types of fixed income securities covered in the course include treasury securities and municipal bonds, corporate and international bonds, and structured securities. The risk-return characteristics of these fixed income securities will be explained in terms of price-yield relationship, various yield and return measures, and various price volatility measures. Various techniques for the valuation of these fixed income securities will be illustrated in details. The topics on fixed-income portfolio management include: yield curve and yield spread strategies, indexing and cash flow matching strategies, immunization strategies, and techniques for bond performance measurement and evaluation.

Proposed Lecture Schedule

Week No.	Topics	Readings
Joseph Kang Choong Seok	1 INTRODUCTION 1.1 Overview of the fixed income securities market 1.2 Risks in bond investment 1.3 Financial innovation and the bond market 2 PRICING OF BONDS 2.1 Bond valuation	Syllabus Fabozzi 1 Fabozzi 2
2	2.2 Complications in bond price determination 2.3 Bond price quotes and invoice price	Eshami 2
Joseph Kang Choong Seok	3.1 Computing the internal rate of return 3.2 Conventional yield measures 3.3 Sources of a bond's dollar return 3.4 Realized compound yield 4 BOND PRICE VOLATILITY 4.1 Price/yield relationship for bonds 4.2 Price/volatility characteristics of bonds 4.3 Price value of a basis point and yield value of a price change 4.4 Duration and convexity 4.5 Limitations of duration and convexity	Fabozzi 3 Fabozzi 4
Joseph Kang Choong Seok	5 ANALYSIS OF TREASURY SECURITIES 5.1 Base interest rate and risk premium 5.2 Term structure of interest rates	Fabozzi 5

	C THE ACTION AND CONTINUE THE ACTION	
	6 TREASURY AND STRIPPED TREASURY SECURITIES MARKETS	Fabozzi 6
	6.1 Treasury securities	
	6.2 Stripped treasury securities	
	6.3 Strips and federal agency securities	
4	7 CORPORATE DEBT INSTRUMENTS	Fabozzi 7
	7.1 Corporate bonds	rabuzzi /
	7.2 Medium-term notes	
Joseph Kang	7.3 Commercial paper	
Choong Seok	7.4 Credit Analysis	
	8 MUNICIPAL SECURITIES	F 1 .0
	8.1 Types and features of municipal securities	Fabozzi 8
	8.2 Municipal money market and derivatives	
	products	
	8.3 Credit and other risks	
	8.4 Municipal bond market	
	9 INTERNATIONAL BONDS	
	9.1 Global bond markets	Fabozzi 9
	9.2 Foreign exchange risk and bond returns	
	9.3 Eurobond market	
	9.4 Non-US government bond markets	
	9.5 Emerging bond markets 9.6 Clearing systems	
	9.7 International bond investing: theory and practice	
5	First Quiz	
	10 MORTGAGE LOANS	
	10.1 Mortgage and mortgage market	E-1 10
Joseph Kang	10.2 Alternative mortgage instruments	Fabozzi 10
Choong Seok	10.3 Risks in mortgage investment	
6		Fabozzi 11
U	11 MORTGAGE PASS-THROUGH SECURITIES 11.1 Cash flow characteristics	T AUULLI II
	11.1 Cash flow characteristics 11.2 Agency and private-label pass-throughs	
Joseph Kang	11.3 Analysis of prepayment behavior	
Choong Seok	11.4 Cash flow yield and cashflow analysis	
6	11.5 Prepayment risk and asset/liability management	
	11.6 Secondary market trading	
7	12 CMO AND STRIPPED MORTGAGE-BACKED	Fabozzi 12
	SECURITIES	
	12.1 Collateralized mortgage obligations	
Robin Grieves	12.2 Stripped mortgage-backed securities	
	13 ASSET-BACKED SECURITIES	Fabozzi 13
	13.1 Overview of asset-backed securities	raduzzi 13
	13.2 Cash flow of asset-backed securities	
	13.3 Credit risk	
8	Recess Week	
9 & 10	14 ANALYSIS OF BONDS WITH EMBEDDED	
5 1. ~ :	OPTIONS	
Robin Grieves	14.1 Yield spread and static spread	Fabozzi 14
	14.2 Price/yield relationship for a callable bond	raduzzi 14

	14.3 Valuation of callable bonds		
	14.4 Option-adjusted spread, duration and convexity		
	SECURITIES	Fabozzi 15	
	15.1 Static cash flow yield methodology		
	15.2 Monte Carlo simulation methodology		
	15.3 Total return analysis		
	16 ANALYSIS OF CONVERTIBLE BONDS		
	16.1 Convertible bond provisions		
	16.2 Minimum value of a convertible bond	Fabozzi 16	
	16.3 Market conversion price		
	16.4 Downside risk		
	16.5 Investment characteristics		
	16.6 An option approach for valuing convertibles		
11	17 ACTIVE BOND PORTFOLIO MANAGEMENT	Fabozzi 17	
	STRATEGIES		
	17.1 Interest rate expectations strategies		
Robin Grieves	17.2 Yield curve strategies		
	17.3 Yield spread strategies		
	17.4 Individual security selection strategies		
	17.5 The use of leverage		
	18 STRUCTURED PORTFOLIO STRATEGIES I:	F. L. 110	
	INDEXING	Fabozzi 18	
	18.1 Objectives and motivations for bond indexing		
	18.2 Index selection and indexing methodologies 18.3 Tracking error and implementation issues		
	18.4 Enhanced indexing strategy		
12	19 STRUCTURED PORTFOLIO STRATEGIES II:	Fabozzi 19	
12	LIABILITY FUNDING		
	19.1 Cash flow matching and dedication		
Robin Grieves	19.2 Immunization		
Room oneves	19.3 Horizon matching		
	19.4 Contingent immunization		
	20 BOND PERFORMANCE MEASUREMENT AND		
	EVALUATION		
	20.1 Requirements for the analysis	Fabozzi 20	
	20.2 Performance measurement		
	20.3 Return attribution analysis		
13	Second Quiz		
Robin Grieves	• REVISION		
Joseph Kang			

^{*}Required readings are in bold.

Mandatory Text

Fabozzi Frank J. Fabozzi

Bond Markets, Analysis and Strategies

Fourth Edition, Prentice Hall, Englewood Cliffs, N.J., 1999

(Library call number: r HG4651.F121 1996)

Optional Reference

Handbook Frank J. Fabozzi, Eds. *The Handbook of Fixed Income Securities*

Fifth Edition, Irwin/McGraw-Hill Publishing, 1997.

(Library call number: r HG4651.H236 1997)

Method of Instruction

Lecturers : 2 hours per week Tutorials : 2 hours per week

Lectures commence in Week 1 and end in Week 13 Tutorials commence in Week 2 and end in Week 14

Course Assessment*

Tutorial Assignments (written and oral presentation, and participation): 10%
Two Non-cumulative Quizzes during Lectures (10% x 2): 20%
Final Examination (closed book): 70%
100%

^{*}Detailed guidelines will be provided by the lecturers during lectures.

Lecturer/Tutor	Office Room No.	DID	E-mail Address
A/P Joseph KANG*	S3B2B68	7904639	Acskang@ntu.edu.sg
A/P Robin Grieves	S3B2B71	7904806	Arobin@ntu.edu.sg

^{*} Course Coordinator