

SJM SCHOOL OF MANAGEMENT, IIT BOMBAY
MG 703: Fixed Income Security
Faculty (Visiting): Ramaprasad Bhar (UNSW, Sydney, www.bhar.id.au)

Course Aims and Outcomes

Course Aims

This course looks at interest rate risk and techniques for managing risk. Topics covered include term structure dynamics (including bond price lattices, spot and forward rate models), analytical and numerical techniques, duration measures, interest rate derivative securities. It also emphasises building discrete time interest rate models calibrated to the market data and use of such models for valuation purposes. The securitised mortgage market is also discussed.

Student Learning Outcomes

Upon completion, students are expected to understand the mechanics of buying, selling, exercising, and settling the interest rate dependent securities. They will also develop a broad based understanding of the complex fixed income products and the analytical processes that underpin valuation of such products. The students will gain insight into the mortgage securitisation market as well.

Teaching Strategies

This course consists of standard two-hour lectures twice weekly. The lectures will deliver the materials primarily covered by the course notes. Students are expected to read the relevant lecture contents before attending each lecture. Sufficient time will be devoted to examples and problems that reinforce the key concepts.

Evaluation

Quiz/Test	20%
Group Assignment	20%
Final Exam	60%

Textbook

The course will follow a set of prepared notes and are made available to the students. The notes have been prepared from diverse sources. Some of these materials are supported by the accompanying Excel spreadsheets.

References

The following two reference books have been very useful in preparation of the notes among others.

"Fixed Income Securities: Tools for Today's Markets" by Bruce Tuckman, Wiley, ISBN: 0471063223.

"Investment Science", David G. Luenberger, Oxford University Press, ISBN: 0195108094.

Lecture Program

The following topics will be covered in approximately the sequence shown below. The extent of coverage during a lecture depends on several factors. It is very likely that many of the topics would flow over to the next lecture. Besides, some of these topics would require Excel based computing in the class to demonstrate the analytics.

1. U.S. Treasury Bond Market
2. Discount Factors, Spot Rates, Forward Rates
3. Basic Risk Management
4. Advanced Risk Management
5. Term-Structure Theory
6. Bond Options
7. Forward and Futures Contracts
8. The Interbank Market
9. Mortgages and Mortgage-Backed Securities
10. Corporate Bonds and Default Risk
11. Discrete Time Model of Interest Rate and Valuing Interest Rate Sensitive Securities.
12. Discrete Time Model of Interest Rate – Calibrating To the Market

Session Time Table

January 2008

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2 DRM	3 FI	4	5	6
7 DRM	8 FI	9 DRM	10 FI	11	12	13
14 DRM	15 FI	16 DRM	17 FI	18	19	20
21 DRM	22 FI	23 DRM	24 FI	25	26	27
28 DRM	29 FI	30 DRM	31 FI			

February 2008

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4 DRM	5 FI	6 DRM	7 FI	8	9	10
11 DRM	12 FI	13 DRM	14 FI	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

Derivative and Risk Management (DRM)
Fixed Income Securities (FI)