

NEW YORK UNIVERSITY
Stern School of Business
Spring 2000

Topics in Real Estate Finance-MBS
Classroom: TBA

Course Number: B40.3177
Tues-Thurs 8:30-9:45 PM

Course Description. This course is designed to introduce students to mortgage-backed securities primarily from an application of fixed income theory perspective. The student is therefore expected to be familiar with the basic concepts of fixed income securities including the term structure of interest rates and valuation techniques

Instructors. As a special feature, this course will be co-taught by *three* finance professors: Jarl Kallberg, Richard Levine and Crocker Liu. Contact information is listed below.

Professor	Phone	Office	Email address	Web page
Jarl Kallberg	998-	9-	jkallberg@stern.nyu.edu	http://www.stern.nyu.edu/~jkallber/
Richard Levine	998-0300	9-190	rlevine@stern.nyu.edu	http://www.stern.nyu.edu/~rlevine/
Crocker Liu	998-0353	9-	cliu@stern.nyu.edu	http://www.stern.nyu.edu/~cliu/

Office Hours to be determined.

Textbooks Used:

1. Michael Lewis, Liar's Poker, 1989 Penguin Books. (“**LP**”).
2. Frank Fabozzi, Handbook of Mortgage-Backed Securities, 1995, 4th Edition, McGraw-Hill Professional Publishing. (“**MBS**”).
3. Fabozzi and Modigliani: Mortgage & Mortgage-Backed Securities, 1992, Harvard Business School Press. (“**FM**”). [*Recommended but not required*]
4. Fabozzi and Jacob: Handbook of Commercial Mortgage-Backed Securities, Second Edition, 1999, Frank J. Fabozzi Associates. (“**CMBS**”).

Grading System: There will be three valuation problem sets, a term project (see below), and a final exam. Grading will be calculated as follows:

40% Final Exam
20% Midterm
20% Project
20% Problem Sets

Project: Students will construct an MBS model to “reverse engineer” an actual issued CMO. The project will be due _____. Details of the project will be forthcoming. Reports submitted tardy will be penalized a full letter grade for each class day overdue.

COURSE SCHEDULE [subject to revision]

Subject	Reading
1. Introduction/Overview of MBS Market	
A. Course Overview	MBS Chap. 1
B. Development of Secondary Mortgage Market	FM Chap. 1-2
C. Market Overview	
2. Mortgage Origination & Servicing	
A. Mortgage Originators	FM Chap. 3-5
B. The Origination Process	MBS Chap. 2
C. Mortgage Servicing and Insurance	
3. The Creation of MBS	
A. Liar's Poker	LP Entire Book
4. Mortgage Products	
A. The Traditional Mortgage	FM Chap. 5
B. The Mismatch Problem	MBS Chap. 5
5. Adjustable Rate Mortgages (ARMS)	
A. The Creation of Variable Rate Mortgages	FM Chap 6-7
B. The Tilt Problem	MBS Chap. 4
C. Agency Adjustable Rate Mortgages	
6. Passthrough Securities I	
A. Features of Passthrough Securities	MBS Chap.
B. Risks of MBS Investments	FM Chap. 8
7. Passthrough Securities II	
A. Projecting Cash Flows	MBS Chap.
B. Yield Calculations	
C. Weighted Average Life	
8. Prepayment Analysis	
A. Benchmark Prepayment Conventions	MBS Chap. 8-10
B. Mortgage Prepayment Modeling	FM Chap. 10
C. Modifying the PSA Curve for New Mortgages	
D. Factors Affecting Prepayment Behavior	
9. Stripped MBS	
A. Overview	MBS Chap. 14
B. Types of SMBS	FM Chap. 11
C. Recent Developments	
D. Investment Characteristics	

Subject	Reading
10. Collateralized Mortgage Obligations (CMOs) A. Introduction to CMOs B. Mechanics of CMOs C. CMO Residuals	MBS Chap. 16,22 FM Chap. 11
11. Types of CMOs A. Sequential Structures B. PACs and TACs C. Companions or Support Bonds D. Accrual or Z Bonds E. Floating/Inverse Floating CMOs F. Interest Only / Principal Only	MBS Chap. 18-21
12. Review of Fixed Income A. Term Structure of Interest Rates B. Duration and Convexity C. Methodologies for Valuing MBS	FM Chap. 12 Handout
13. Techniques for Analyzing CMOs: Static Cash Flow Yield A. Consistent, Fair and Robust Models to Value MBS B. Measuring Mortgage Duration C. Duration and Convexity Drift of CMOs	MBS Chap. 31-33
14. Techniques for Analyzing CMOs: Option Adjusted Spread A. A Comparison of Methods for Analyzing MBS B. Introduction to Option-Adjusted Spread (OAS)	MBS Chap. 28-29
15. Midterm Exam	
16. Techniques for Analyzing CMOs III A. A Further Look at OAS Analysis B. OAS Problems	MBS Chap 30
17. Midterm Review	
18. Floating Rate MBS A. Inverse Floaters and Inverse IOs B. Understanding Inverse Floater Pricing	MBS Chap. 34
19. MBS Case Study	
20. Whole Loan MBS I A. The Whole Loan Mortgage Market B. Structural Nuances in Non-Agency Securities C. Agency vs. Non-Agency MBS	MBS Chap. 13

Subject	Reading
21. Whole Loan MBS II A. Default and Loss Experience B. B and C Mortgage-Backed Securities C. Whole Loan CMOs	MBS Chap. 23
22. Introduction to CMBS A. Origination of the CMBS Market B. Overview of Current CMBS Market C. Analyzing a Mortgage Note	MBS Chap. 25 CMBS Chap. 1-2 Handout
23. Trends and Structures in CMBS A. The Cash Flow Waterfall B. Prepayment Considerations C. Impact of Defaults and Losses	CMBS Chap. 4-8
24. The CMBS Transaction A. Mechanics of CMBS Deals B. Role of the Servicer	CMBS Chap 4-8 Handout
25. Analyzing CMBS A. Techniques for Analyzing a CMBS Issue B. Risk and Relative Value Considerations	CMBS Chap. 16-17 Handout
26. Rating of CMBS	CMBS Chap. 12
27. CMBS Case Study	Handout
28. Course Review A. Questions and Answers B. The Future of the MBS Market C. Sample Test Problems	
FINAL EXAM	