



Real Estate Capital Markets Course Syllabus

Spring 2008, C15.0038.01
Mon-Wed 2:00-3:15pm, UC-52

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Course Description

The course is designed to introduce students to real estate securitization in both debt and equity markets. Real estate debt market constitutes a very important and growing segment of US debt markets. Aggregate current principal amount outstanding mortgage loans is over \$4.9 trillion as compared to about \$3.3 trillion of government securities and \$4.4 trillion of Corporate bonds. The course will provide an in-depth coverage of secondary real estate debt markets. Debt instruments studied include residential and commercial mortgage-backed securities (MBS). On the equity side, we will study Real Estate Investment Trusts (REITs), which are the primary traded equity structure used for real estate. The REIT section of the course includes a discussion of the legal and institutional framework of the REIT industry, analysis of REIT securities, and a discussion of mergers and acquisitions in the REIT industry.

Course Objective

- To provide sound theoretical foundation and analytical skills to be able to analyze a wide range of real estate debt instruments
- To enable students to price and analyze mortgage-related debt instruments
- To provide understanding of real estate investment trusts and tools for their performance evaluation

Course Material

Required Texts:

Lewis, 1989, Liar's Poker, Penguin Books, NY, NY, ISBN 0-393-02750-3

Fabozzi, 2006, Handbook of Mortgage-Backed Securities, 6th Edition, McGraw-Hill Trade, ISBN (hardcover) 0-07-146074-8

Garrigan and Parsons (GP), 1997, Real Estate Investment Trusts: Structure, Analysis and Strategy, McGraw-Hill Irwin, ISBN 0-7863-0002-7

Cases:

HBS Case Study: Travelers Mortgage Securities CMO

HBS Case Study: The Bourland Companies

HBS Case Study: McArthur/Glen Realty Corp

Recommended Text:

Davidson, Sanders, Wolff, and Ching, "Securitization: Structuring and Investment Analysis"
ISBN: 978-0-471-02260-2, 576 pages, September 2003

Hayre, "Salomon Smith Barney guide to mortgage-backed securities," Wiley and Sons, Inc,
2001

Additionally, there will be lecture notes and readings assigned to supplement the textbook readings. They will be posed on Blackboard.

Blackboard (<http://sternclasses.nyu.edu/webapps/login>): Class material such as class notes, assignments, relevant articles and other readings will be posted on Blackboard and distributed in class. In addition to course material, I will be posting announcements and sending e-mails via Blackboard. You are expected to check Blackboard at least once before each class.

Financial calculator: A financial calculator is required for this class. Any financial calculator is acceptable; however, the Texas Instruments BAII Plus will be used for instructional purposes. Either Advanced or Professional will do. If you choose to use a different calculator, you will have to learn how to use it yourself.

Access to a major business publication: Suggestions include The Wall Street Journal, The Economist, Business Week, Financial Times, Forbes, Fortune etc.

Course Prerequisites

C15.0002 Foundations of Financial Markets

Course Requirements, Grading

You are expected to read assigned chapters before they are covered in class. Even if the material is not clear, prior exposure will familiarize you with the terminology and allow you to focus on understanding the concepts discussed during class.

Attendance is required. Lectures will help you to better understand concepts introduced in the assigned readings. In addition, material covered in class will not always follow the format of the book and will include extra information that will appear on exams.

You are responsible for all information and announcements covered in class. If you are late or unable to attend class, *it is your responsibility to obtain missed information from other students.*

You grade will be derived as follows (approximate):

- 20% Assignments and Cases
- 30% Midterm Exam
- 40% Final Exam
- Bonus Class Participation*

Your grades will be posted on Blackboard. It is your responsibility to check if the grades posted on blackboard are correct within 3 weeks of grade posting. If you notice a mistake on Blackboard, you have to present graded hard copy of your assignment or exam to have the grade corrected. No corrections will be made without graded hard copies.

Other Considerations

Attendance

Class attendance is mandatory. Absences may be excused only in the case of documented serious illness, family emergency, religious observance, or civic obligation. If you will miss class for religious observance or civic obligation, you must inform me no later than the first week of class. Recruiting activities are not acceptable reasons for class absence. Please notify me as soon as possible if it appears likely that you will miss class for an extended period of time due to illness or another reason.

Students are also expected to arrive to class on time and stay to the end of the class period. Chronically arriving late or leaving class early will have an impact on a student's grade. Students enter class late must do so without disrupting the class.

Disabilities

If you have a qualified disability and will require academic accommodation during this course, please contact the Moses Center for Students with Disabilities (CSD, [998-4980](tel:998-4980)) and provide me with a letter from them verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation.

Code of conduct

All students are expected to follow the **Stern Code of Conduct**
(<http://www.stern.nyu.edu/uc/codeofconduct>)

A student's responsibilities include, but are not limited to, the following:

1. A duty to acknowledge the work and efforts of others when submitting work as one's own. Ideas, data, direct quotations, paraphrasing, creative expression, or any other incorporation of the work of others must be clearly referenced.
2. A duty to exercise the utmost integrity when preparing for and completing examinations, including an obligation to report any observed violations.

List of Topics (Preliminary)

Additional required readings will be posted for each topic on Blackboard. To make sure students have a clear understanding of where we are, after each class I will post an announcement on the Blackboard detailing what has been covered in class, what is going to be covered next, and what is due and when.

All **assignments** will be posted on Blackboard. Due Dates for assignments will be announced in class and on Blackboard.

Please check Blackboard regularly!

Topics		Readings
Introduction		
1	Introduction to real estate capital markets	<p>Liar's Poker</p> <p>R. Greer, Winter 1997, What is an Asset Class, Anyway?, Journal of Portfolio Management, pp. 86-91.</p> <p>S. Hudson-Wilson and B. Elbaum, Spring 1995, Diversification Benefits for Investors in Real Estate, Journal of Portfolio Management, pp. 92-99.</p>
Residential mortgage backed securities (RMBS)		
<ul style="list-style-type: none"> • <i>Agency mortgage-backed securities</i> 		
2	Overview of residential mortgages Fixed rate mortgages (FRM) Graduate payment mortgages (GPM) Adjustable rate mortgages (ARM) Shared amortization mortgages (SAM) Reverse-Annuity mortgages	Fabozzi Ch. 1 – An overview of mortgages and mortgage markets
3	Agency Pass-Throughs	Fabozzi Ch. 2 – MBS investors Fabozzi Ch. 3 – Mortgage pass-through securities Fabozzi Ch. 4 – Trading, settlement, and clearing procedures for agency MBS
4	RMBS: Prepayment analysis and modeling and valuation of mortgage backed securities	Fabozzi Ch. 24 – Overview of Recent Prepayment Behavior and Advances in its Modeling Fabozzi Ch. 25 – Agency prepayment models: modeling the dynamics of borrower attributes Fabozzi Ch. 31 – Valuation of Mortgage Backed Securities Fabozzi Ch. 32 – Risk neutral prepayment modeling and valuation with prOAS Fabozzi Ch. 33 – An option-theoretic approach to MBS valuation Fabozzi Ch. 34 – Approaches for measuring the duration of mortgage-related securities

5	Structuring CMOs, IOs, and POs and other securities <i>HBS Case Study: Travelers Mortgage Securities CMO</i>	Fabozzi Ch. 19 – Stripped Mortgage Backed Securities Fabozzi Ch. 20 – PAC bond features and performance Fabozzi Ch. 21 – Z Bonds Fabozzi Ch. 22 – Companions with Schedules Fabozzi Ch. 23 – Inverse Floating Rate CMOs
Residential mortgage backed securities (RMBS) • <i>Non - Agency mortgage-backed securities</i>		
6	Non-agency mortgage-backed securities	Fabozzi Ch. 5 – Defining non-agency MBS Fabozzi Ch. 6 – Credit enhancement for non-agency MBS products Fabozzi Ch. 28 – Prepayment models to value nonagency MBS
Commercial mortgage backed securities (CMBS)		
7	Overview of commercial real estate and commercial mortgages	Fabozzi Ch. 49 – Commercial Mortgage-Backed Securities
8	Commercial mortgage backed securities <i>HBS Case Study: The Bourland Companies</i>	Fabozzi Ch. 50 – The impact of structuring on CMBS bond class performance Fabozzi Ch. 52 – CMBS collateral performance: measures and valuations
Real Estate Investment Trusts (REITs)		
9	The role of Real Estate Investment Trusts <i>HBS Case Study: McArthur/Glen Realty Corp.</i>	GP Chapter 1 – Modern REIT Industry: An Overview GP Chapter 2 – Going Public: Formation of a REIT GP Chapter 3 – REITs as Legal Entities GP Chapter 9 – REIT Mergers and Acquisitions GP Chapters 12 and 13 – Historical Behavior of REIT Returns GP Chapter 14 – Financial Analysis of REIT Securities