



Real Estate Capital Markets Course Syllabus

Spring 2007, C15.0038.01
Tuesday-Thursday 2:00-3:15pm

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Homepage: <http://sternclasses.nyu.edu/> (Blackboard)
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and by appointment
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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:

Grade distribution

20%	Assignments
20%	Cases
30%	Midterm Exam
30%	Final Exam
<i>Bonus</i>	<i>Class Participation</i>

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.

Following departmental guidelines, the course will be graded on the following curve.

A	10%
A-	10% to 15%
B+	10%
B and B-	50% to 60%
C+, C, C-, D and F	10% to 15%
IP and IF	No more than 5%

I do not have control over the curve. You can find more information about finance department grading standards on the following link:

http://w4.stern.nyu.edu/finance/academic.cfm?doc_id=4007

Assignments

Assignments will be distributed in class after relevant material is covered. Assignment due dates will be announced in class and on Blackboard. You are encouraged to work on assignments in groups of no more than 4 students and submit a group answer. Each student in the group will receive the same grade. Assignments will NOT be accepted after the class period in which they are due. *No makeups of assignments will be allowed.* No electronic submissions are accepted.

Exams

Tests will consist of multiple choice questions, essay questions and problems. The content for exams will focus on class lecture/discussion and assignments. Inputs used in any calculation must be provided on the exam copy to receive credit. Partial credit will be given for correct procedures even if an error is made early in the problem. The process is graded; therefore, providing only the correct answer will be worth very little credit. No make-up exams will be allowed. If you miss the midterm, 60% of your final grade will be derived from the grade on the final exam. Do not miss the final!

Class Participation

Class participation is strongly encouraged. Enthusiastic and meaningful class participation will be rewarded with an addition of up to 3 points to your final grade.

Important Dates

Tuesday, January 16, 2007– first day of classes

Tuesday, March 13, 2007 and Thursday, March 15, 2007– no class (SPRING BREAK)!

Tuesday, March 6, 2007 – MIDTERM EXAM

Thursday, April 26, 2007 – last day of classes!

List of Topics

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 – entire book</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