



SPRING 2011

Professor	Jay Hartzell
Office	GSB 5.165
Office Hours	MW, 10:30 am – 11:30, or by appointment
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Course Objectives

This course's primary objective is to examine real estate capital markets, both debt and equity.

The first half of the course is devoted to real estate debt markets. The primary focus is on the structure and cash flow characteristics of real estate debt instruments. The course begins with a study of the primary residential mortgage market and the mathematics and finance of residential mortgage cash flows and pricing. The course then moves into the secondary market for mortgage funds with a study of simple pass-through residential mortgage pass-through securities. The problem of prepayment and the complications that prepayment introduces to the valuation of mortgage backed securities is analyzed. The prepayment problem in simple residential mortgage pass-through securities led to the creation of Collateralized Mortgage Obligations (CMOs). Following our study of the prepayment problem we go directly to a study of the creation, structure, and pricing of CMOs, including a discussion of mortgage strip securities (IOs and POs) and specialized CMO tranches (PACs and Zs). Students will analyze an actual \$250 million Fannie Mae CMO (REMIC) issued in August 2002 as a case assignment. After working through the residential mortgage instruments we will go directly into our study of Commercial Mortgage Backed Securities (CMBS). CMBS are very similar in spirit and structure to MBS, but significant differences in both prepayment and default characteristics make CMBS an interesting twist on the original MBS model.

The second half of the course begins with a quick review of real estate valuation, followed by a discussion of the application of real options to real estate. The remainder of the second half of the semester is dedicated to the study of real estate equity markets, both public and private. We will spend several meetings discussing Real Estate Investment Trusts (REITs), including their structure, corporate governance, and valuation. We will also analyze alternative ways to invest in private equity in the real estate sector, such as commingled real estate funds and limited partnerships. The last part of this section of the course will be dedicated to studying how real estate fits within a diversified investor's portfolio.

Materials

Required:

Liar's Poker, by Michael Lewis (1989 Penguin Books).

The Big Short, by Michael Lewis (2010 Norton & Company)

Recommended:

Mortgage-Backed Securities, Frank J. Fabozzi, Anand K. Bhattacharya, and William S. Berliner, 2007, Wiley.

Real Estate Investment Trusts, by Chan, Erickson, and Wang, 2002, Oxford.

Course Requirements and Grading

Grades will be based on the student's performance on one quiz (on the two books by Michael Lewis), two tests (the midterm and the final), and two cases/problem sets. The weights on each component of the overall course grade are as follows:

Individual:

Class Participation	Ongoing	10%
Lewis books quiz	Wed., Feb 9	5%
First half test	Wed., Mar 9	30%
Second half test	Wed., May 4	30%

Group portion:

Cases (Angus Cartwright, REIT NAV Assignment, MBS/CMO)	Various	25%
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Make-up and extra-credit assignments are generally not possible. Your grade will be determined solely by the components listed above. If you fail to turn in the case assignment or the problem set when they are due you will not be able to make up the assignment or the points. Don't miss the quiz or the tests.

Tests and Quiz

There are two tests, one over the first half of the class (given in class, March 9th), and one over the second half (given in class, May 4th). Thus, the second exam is not cumulative, but is based on material covered since the midterm.

The quiz will be over the books Liar's Poker and The Big Short.

Case Write-ups

Written analyses are to be prepared by groups of two or three students. Students are left to find their own groups, but please see me if you need help.

Groups should remain constant for all of the assignments, barring extraordinary circumstances.

Copies of the written reports are due at the beginning of class on the day given on the assignment. No late written reports will be accepted. Each group will hand in only one typed assignment.

Each group's write-up should be independent work (i.e., not the work of another group).

I retain the right to have up to half of each student's class participation grade be determined by group members' assessment of his or her relative contribution.

For the cases, students should try to put themselves in the shoes of the case participants at the time of the case. Students may do additional research (e.g., on the internet). Students may not look at or use case materials from any other source, such as slides, spreadsheets or discussions from other universities that may be available on the internet or otherwise. Other schools assign these cases, but students may not use their discussions, materials, or solutions in any way.

Policies

Though attendance will not be taken, you are responsible for everything covered or assigned in class. The lectures may depart significantly from the material assigned and it is important that you review the assigned readings prior to the class session.

I will follow the finance department default laptop policy – they will not be permitted in class, except for days where I specifically specify otherwise.

Academic Dishonesty

I have no tolerance for acts of academic dishonesty. Such acts damage the reputation of the school and the degree and demean the honest efforts of the majority of students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment or exam, and I intend to turn any cases of academic dishonesty over to the disciplinary process of the school.

As specific guidance for this course, you should consider the *writing* of all examinations to be an individual effort. Group *preparation* for examinations is acceptable and encouraged. Homework assignments are to be turned in individually but I encourage you to work together in answering the questions. You should, however, develop your own answer and not cut and paste the work of others.

Students with Disabilities

Upon request, the University of Texas at Austin provides appropriate academic accommodations for qualified students with disabilities. Services for Students with Disabilities (SSD) is housed in the Office of the Dean of Students, located on the fourth floor of the Student Services Building. Information on how to register, downloadable forms, including guidelines for documentation, accommodation request letters, and releases of information are available online at <http://deanofstudents.utexas.edu/ssd/index.php>. Please do not hesitate to contact SSD at (512) 471-6259, VP: (512) 232-2937 or via e-mail if you have any questions.

Schedule (Tentative and Subject to Change)

MEETING	DAY	DATE	TOPIC	READING
1	Wed	Jan 19	Syllabus, course overview	
2	Mon	Jan 24	The Primary Residential Mortgage Market and Products	FBB 1, 2
3	Wed	Jan 26	Mortgage Math and Analytics Payments, Amortization, OSB	
4	Mon	Jan 31	Mortgage Backed Securities (MBS) – Creation and players MBS Cash Flow and Cash Flow spreadsheet	
5	Wed	Feb 2	Prepayment Modeling	FBB 3, 4
6	Mon	Feb 7	Prepayment Modeling	
7	Wed	Feb 9	(Lewis quiz at beginning of class) CMOs IO's, PO's, and Sequentials <i>Assign and discuss CMO case: FNMA REMIC Trust 2002-46</i>	FBB 5, 6, 7
8	Mon	Feb 14	CMOs – Z's and PAC's	
9	Wed	Feb 16	Private Label MBS	FBB 8, 9
10	Mon	Feb 21	Commercial Mortgage Backed Securities (CMBS) CMBS Intro, Structure, and Property Types	
11	Wed	Feb 23	CMBS – Call Protection, Default and Credit Performance	
12	Mon	Feb 28	Intro to FI – Treasuries and Discount Factors	
13	Wed	Mar 2	Discount factors, Spot Rates, and Forward Rates CMO Case Due	
14	Mon	Mar 7	Valuation and Analysis of MBS – Spreads (Zero-vol and OAS), Yield Measures, and Interest Rate Sensitivity (MBS Duration)	FBB 10, 11, 12
15	Wed	Mar 9	Midterm	
<i>Spring Break</i>				
16	Mon	Mar 21	Valuation and Analysis of MBS – Spreads (Zero-vol and OAS), Yield Measures, and Interest Rate Sensitivity (MBS Duration)	
17	Wed	Mar 23	Review: Valuation of Income Producing Property	
18	Mon	Mar 28	Review: Valuation of Income Producing Property	
19	Wed	Mar 30	Simulations in Modeling Real Estate	
20	Mon	Apr 4	Angus Cartwright case	
21	Wed	Apr 6	Real Options in Real Estate	

22	Mon	Apr 11	Real Options in Real Estate (continued)	
23	Wed	Apr 13	REITs	CEW 1-3
24	Mon	Apr 18	REITs: Valuation and NAV Calculation	
25	Wed	Apr 20	REITs: Governance	CEW 4, 6, 7
26	Mon	Apr 25	<i>REIT NAV assignment discussion</i>	
27	Wed	Apr 27	Commingled funds and RELPs	
28	Mon	May 2	Real Estate and Diversification	CEW 10, 11
29	Wed	May 4	<i>Second Exam</i>	