

## **B8453 REAL ESTATE DEBT MARKETS**

**FALL 2017, B TERM**

**Tuesdays: 5:45 – 9pm, Uris 331**

**Brian Lancaster, Senior Lecturer in the Discipline of Finance**

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TEACHING ASSISTANT

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Office Hours: Please contact the TA to arrange a meeting or call.

Communications from professor and teaching assistants about the course will take place through Canvas.

Students should make sure they regularly check for announcements and messaging notifications.

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### **COURSE BACKGROUND**

The development of the commercial real estate debt markets has revolutionized the commercial real estate industry providing unprecedented capital availability and pricing, reshaping valuation metrics, heavily influencing private capital formation and providing real estate and security investors with a greater array of investment, hedging and arbitrage opportunities. As the past several years have shown, the integration of public debt markets also creates volatility in the CRE property markets that can be driven by factors well outside the realm of commercial properties. Indeed the flow of debt capital can often have a greater impact on property values than the trends underlying property market fundamentals themselves. Why asks an owner, did Russia's debt default in the late '90s prevent me from refinancing my Kansas City shopping mall causing me to default? How did money market funds almost "breaking the buck" contribute to the collapse of commercial real estate property prices in 2008? Why did so many "dirt CRE analysts" at top firms, like CBRE, make such wrong calls in 2006 and 2007? Could CRE debt capital market developments cause another downturn today?

Today's professional real estate investor, must have an investment view and strategy which are informed by and integrated with the opportunities and risks inherent not just in the property markets and their fundamentals but in the capital markets as well. In 2007 many thought balanced supply and demand fundamentals might cushion commercial real estate from the free fall in the oversupplied residential markets. Yet a thoughtful understanding of the complex connection between the two via the debt markets would have quickly apprised them otherwise. Understanding the real estate debt capital markets is essential for every commercial real estate borrower, lender, developer or investor.

## **COURSE DESCRIPTION**

This half session “B” course is focused primarily on the commercial real estate debt markets and is complemented by the half session “A” course, Real Estate Equity Markets which precedes it. Students may wish to take both half courses sequentially for a complete understanding of the Real Estate Capital Markets or individually.

The purpose of this course is to provide the student with a comprehensive understanding of both *theory* and *practice* in the commercial real estate debt markets both from the perspective of capital providers as well as property investors. The approach will be to make sure students first have an understanding of the debt products and then to apply that understanding to reality. Students will learn how to underwrite, size, and analyze a variety of commercial real estate debt including balance sheet first mortgage loans, first mortgage loans for securitization and CMBS, and subordinate debt structures including mezzanine loans, B- notes and preferred equity.

The course will also teach the student how to analyze the \$800 billion CMBS market, the largest public commercial real estate debt market and the associated CRE CDO, CRE CLO and CMBX markets both from a theoretical and practical perspective. These markets finance about one quarter of all commercial real estate debt. They were also at the heart of the recent commercial real estate bubble, collapse and rebirth. Some time will also be devoted to agency “CMBS (multifamily)” markets including FNMA DUS MBS, FHLMC K certificates and Ginnie Mae Project and construction loan certificates. Regulations and their influence on CRE debt flows, property values and the creation of new profitable investment opportunities will also be covered. As a final project, students will be grouped into teams and given commercial real estate securities to analyze on a Bloomberg to make investment decisions.

All students who would like to understand these critical markets and their connection to the commercial property markets are welcome. The course would be particularly appropriate for students wishing to pursue careers in real estate finance and/or trading, creating, investing in, researching, selling or regulating commercial real estate securities. The course is also recommended for students wishing to pursue careers as developers or investors in commercial real estate properties themselves (“the dirt”) but want to understand how to fund their ventures via these instruments and how volatility in the real estate debt capital markets for these instruments can create opportunities and risks in the property markets themselves.

## COURSE SCHEDULE

### 1. Oct 31: **Course Overview; Overview of CRE Debt Markets and their Link to Commercial Real Estate Property Markets**

Overview of the various sources of commercial real estate debt and players in the market (on-balance sheet commercial bank and insurance company lenders, CMBS conduits, government sponsored enterprises, private equity CRE debt lenders, and mortgage brokers both from the borrower and lender's perspective).

How the public commercial real estate debt capital markets influence and create risks and opportunities in the commercial real estate property markets. Trends and factors affecting capital flows and ultimately CRE property markets. Case study includes an analysis of the interplay between the commercial real estate debt markets and property markets before, during and after the 2007 market and a discussion as to where we are now in the CRE property/debt capital market cycle.

#### **Readings:**

Required: Session 1 Lecture - Overview of Real Estate Debt Markets

Optional: Deloitte Expectations and Market Realities in Real Estate 2017,

IMF Report: Policies for Macrofinancial Stability: Options to Deal with Real Estate Booms

### 2. Nov 14: **Underwriting Commercial Real Estate Debt**

The underwriting, credit analysis, risks, sizing, pricing, credit metrics, required documentation, covenants, prepayments of commercial real estate loans either for balance sheet or conduits from both from the borrower and the lender/investor perspective. Job and investment opportunities in the commercial real estate debt markets.

#### **Readings:**

Required: Session 2 Lecture – Underwriting Commercial Real Estate Mortgages

Optional: OCC Commercial Real Estate Lending Handbook

CREFC – Principles-Based Underwriting Framework

Kroll CMBS Property Evaluation Criteria

Floating Rate Form of Loan Agreement

Sherling and Sterling CRE Lending in US

Cash Management and Security Agreement

**Assignments:**

Assignment 1 Underwriting Commercial Real Estate due Nov. 28, 2017

3. Nov 21: **Commercial Mortgage Backed Securities (CMBS) and Agency Multifamily Securities, CMBS Case Study**

A) The history of CMBS and other commercial real estate debt securities and derivatives, what are they, how to analyze, price, invest, and hedge these commercial real estate instruments and to understand the opportunities and risks structured CRE finance pose to the investor. Theoretical build of a CMBS deal with collateral, the rating agencies before and after the crash, tranche warfare and intra deal conflicts of interest, master and special servicers, equity and economic driven refinancing and convexity analysis, the curious case of CMBS upgrades and downgrades; arbitrage between the public and private real estate markets. FNMA DUS MBS and Freddie Mac Multifamily K programs.

B) Case study of specific deal BACM 2006-6. Real Estate debt markets from the CMBS originators/structurers perspective: One week before class, students will be given documents pertaining to an actual commercial real estate debt markets borrower transaction covering the way a real estate debt markets transaction was structured to fit the needs of a borrower. This session will refresh and apply many of the concepts discussed in Sessions 1 and 2 to a recent debt borrower transaction.

**Readings:**

Required: Session 3 Lecture Commercial Mortgage Backed Securities

BACM 2006-6 Case Materials (as required in notes)

Optional: CREFC Presentation CMBS 101

CREFC CMBS E-Primer

FNMA DUS Program

Freddie Mac K Multifamily Presentation

4. Nov 28: **CMBS Case Study (continued) and CRE Subordinated Debt Securities (B Notes, Mezzanine, Preferred Equity)**

A) Case study of specific CMBS deal – BACM 2006-6 Real Estate Debt Markets from the CMBS investors' perspective: Students will be given documents pertaining to an actual CMBS investment one week before class. Class discussion will focus on analyzing the CMBS investment. This session will refresh and apply many of the concepts learned in Sessions 3 to a recent CMBS investment.

Readings: Session 4 CMBS – BACM 2006-6 Lecture

B) High yield CRE debt obligations (Subordinate debt, mezzanine loans, B-notes, preferred equity, CRE CDOs/CRE loan obligations (CLOs), what they are, how and why they are used from a borrower and investor perspective. Opportunities and risks.

**Readings:** Session 4 Subordinate Debt Lecture

Understanding Managed CRE CDOs: An Analysis of Their Collateral, Structures, Opportunities and Risks  
P. 12 – 30. Other pages optional.

5. Dec 5: **CMBS Secondary Market Investing and Analytics and CRE Debt Review**

This class will be held off-campus in the “synthetic” trading room at Bloomberg headquarters where students will gain hands-on experience in using the Bloomberg to perform CMBS analysis and apply the concepts learned in the classroom including loan pool underwriting, collateral analysis, stress testing structures to see how changes at the property level impact tranche performance, defaults, loss given default, prepayments, yield analysis, B-pieces. The bond portfolio manager’s perspective, added value of CMBS in a fixed income portfolio.

**Readings:** Session 6 CRE Debt Review Lecture

6. Dec 12: **A) Transitional Lending Investing**

Construction/development loans; bridge financing, land loans. Impact of Basel III and High Volatility Commercial Real Estate loan classifications on developer financing.

**Readings:** Session 7 Transitional Lending

Construction Lending Industry Standard Practices Applicable to Construction Loan Litigation

AIA Pay application excel form.

Investing, hedging and shorting with with “synthetic CRE debt” (CMBX); REIT Debt Markets.

**Readings:** Session 5 CMBX – CRE Credit Default Swaps

**B) Final Exam 1 ½ hours.**

## COURSE HANDOUTS

Powerpoints of lectures, readings, and cases will be available on CANVAS before classes. Students should make sure to read lecture powerpoint slides and readings for each class BEFORE each class. Students may bring their lecture powerpoint slides with them to class however hard copies will provided at the beginning of each class. Readings that are optional are indicated. They are provided if students wish a deeper look into a particular talk. They are also helpful additional reference documents to keep should you pursue a career in real estate debt markets.

## REQUIRED COURSE MATERIALS

Course readings for each lecture will be posted on CANVAS.

## CONNECTION WITH THE CORE AND OTHER PREREQUISITES

Real Estate Debt Markets builds on a variety of topics taught in the core courses particularly Corporate Finance, Global Economics, Managerial Economics and Strategy.

Core Course	Connection with Core
Corporate Finance	<ol style="list-style-type: none"> <li>1. Time value of money</li> <li>2. Opportunity cost of capital</li> <li>3. Risk</li> </ol>
Strategy Formulation	<ol style="list-style-type: none"> <li>1. Creation of value vs. value capture</li> <li>2. Trade-offs</li> </ol>
Leadership Development	<ol style="list-style-type: none"> <li>1. Ethics</li> <li>2. Decision making</li> <li>3. Influence &amp; Persuasion</li> <li>4. Negotiations</li> </ol>
Global Economic Environment	<ol style="list-style-type: none"> <li>1. Inflation and the business cycle</li> <li>2. Fiscal policy</li> <li>3. Role of financial markets in the economy</li> </ol>

Corporate Finance (B6300), Capital Markets (B8306), and Real Estate Finance (B8331) are prerequisites for B8453 as it is important that students have a working understanding of finance and real estate investment concepts.

## CLASSROOM NORMS AND EXPECTATIONS

Students are expected to adhere to CBS Core Culture in this class by being Present, Prepared, and Participating.

Please bring name plates to every class. Class participation will count for a significant part of your course grade. Please participate. Please turn off cell phones, Blackberries, etc. Absences or late arrivals will be considered as a factor in class participation. Materials covered by guest lecturers are required.

## ASSIGNMENTS

Assignments should be turned in at the beginning of class on the day it is due. Late assignments will not be accepted.

All of your assignment submissions are subject to the [CBS Honor Code](#). Violations of the CBS Honor Code may lead to failing the assignment, failing the course, suspension, and/or dismissal. In order to avoid ambiguity that may lead to unintentional violations of the Honor Code, assignment description types have been standardized and specified below.

<u>Type</u>	<u>Designation</u>	<u>Grade</u>	<u>Preparation of submission</u>	<u>Discussion of Submission*</u>	<u>Discussion of Concepts**</u>
A	Group Work ( <b>Assignments and Cases</b> )	Same grade for all group members	By the group	Permitted to discuss (within group)	Permitted
B <sup>1</sup>	Individual w/ Discussions of Concepts and Submission	Individual grade	Individual preparation	Permitted to discuss; sharing solutions or submission files is not allowed	Permitted
B <sup>2</sup>	Individual w/ Discussions of Concepts Only	Individual grade	Individual preparation	Not permitted to share/discuss solutions or submission	Permitted
C	Individual ( <b>Final Exam</b> )	Individual grade	Individual preparation	Not permitted to share/discuss solutions or submission	Not permitted***

\* The designated group can be either an assigned study group or a self-selected one.

## GRADING

Your grade will be determined by one case write-up, two homework assignments, a final exam, and class participation.

## METHOD OF EVALUATION

Participation	10%
Assignments (type A – group work)	15%
Cases (type A – group work)	25%
Final Exam (type C – individual)	50%

## FINAL EXAM

The final exam covers material covered over the entirety of the course. More specific instructions on what to expect will be given later. Make-ups are not given unless you have written authorization from the student affairs office.

The readings distributed over the semester are to help you better understand concepts and materials covered in class. Materials, only in the readings but not covered in class, are not required for the exams.

## ATTENDANCE POLICY

Students are required to attend each class. Students should reach out to the [Office of Student Affairs \(OSA\)](#) by using Core Absence Form on this course's Canvas page regarding excused absences (for religious observances; personal, medical, and family emergencies; military service; court appearances such as jury duty). Unexcused absences will affect your course grade.

## **INCLUSION, ACCOMMODATIONS, AND SUPPORT FOR STUDENTS**

At Columbia Business School, we believe that diversity strengthens any community or business model and brings it greater success. Columbia Business School is committed to providing all students with the equal opportunity to thrive in the classroom by providing a learning, living, and working environment free from discrimination, harassment, and bias on the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability.

Columbia Business School will make reasonable accommodations for persons with documented disabilities. Students are encouraged to contact the Columbia University's Office of Disability Services for information about registration. Students seeking accommodation in the classroom may obtain information on the services offered by Columbia University's Office of Disability Services online at [www.health.columbia.edu/docs/services/ods/index.html](http://www.health.columbia.edu/docs/services/ods/index.html) or by contacting (212) 854-2388.

Columbia Business School is committed to maintaining a safe environment for students, staff and faculty. Because of this commitment and because of federal and state regulations, we must advise you that if you tell any of your instructors about sexual harassment or gender-based misconduct involving a member of the campus community, your instructor is required to report this information to a Title IX Coordinator. They will treat this information as private, but will need to follow up with you and possibly look into the matter. Counseling and Psychological Services, the Office of the University Chaplain, and the Ombuds Office for Gender-Based Misconduct are confidential resources available for students, staff and faculty. "Gender-based misconduct" includes sexual assault, stalking, sexual harassment, dating violence, domestic violence, sexual exploitation, and gender-based harassment. For more information, see <http://sexualrespect.columbia.edu/gender-based-misconduct-policy-students>.

## **PROFESSOR'S BIOGRAPHY**

Professor Lancaster has over twenty five years of professional experience in real estate finance and capital markets including most recently President, The Minot Group, LLC, one of Forbes Magazine 2017 America's Best Management Consulting Companies (real estate finance and capital markets consulting to US and foreign hedge funds, private equity, REITs, banks, insurance companies and data/analytic companies); Co-head Financial Analytics and Structured Transactions, RBS; Chief Investment Officer, Real Estate Division, Wachovia/Wells Fargo; Head of Commercial Real Estate Research and Securitization, Wachovia Capital Markets; Head of Structured Products Research, Wachovia Capital Markets; Managing Director Principal Bear Stearns (commercial real estate and commercial real estate securities); Senior Capital Markets Economist Federal Reserve Bank of NY and Bank of England; EDIC Boston Harborfront development officer.

Professor Lancaster also invests in real estate development projects in New York, real estate private equity in Asia and Europe, mezzanine and bridge loan private equity funds and is currently a partner developing condominiums in NYC and San Francisco.

He holds a BSc in Economics from the Massachusetts Institute of Technology, an MBA in Finance, Stern School of Business, New York University, and a Master of International Affairs and Public Policy, Columbia University School of International and Public Affairs where he was also an International Fellow.

He is a former board member of the Commercial Real Estate Finance Association, a former Executive Committee member of the Mortgage Bankers Association and Editor in Chief of Commercial Real Estate Finance journal. He periodically lectures at other universities and consults at home and abroad.