

B8453 REAL ESTATE DEBT MARKETS
FALL 2022, B TERM
Tuesdays: 6:00PM – 9:15pm, Location: Kravis 920

Professor Brian Lancaster

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Office Hours: Please contact me at the above email and we can arrange a meeting or call.

COURSE ASSISTANTS

Course Assistant: TBD

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Phone: TBD

Course Assistant: TBD

Email: TBD@gsb.columbia.edu

Phone: TBD

Office Hours: Please call to arrange a zoom 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.

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? What is driving the current resurgence in CRE CLOs, how do these differ from the old CRE CDOs and how can they best be used by borrowers and investors? What has been the impact of COVID-19 on the debt markets? How did COVID almost cut off CRE financing. How did debt restructurings during COVID limit distressed buying opportunities?

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. How did rent forgiveness of tenants almost shut down CRE financing. 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 the commercial real estate debt markets from the perspective of real estate debt capital *providers*, real estate debt capital *users* (the borrower/property owner) as well as real estate debt *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 different types 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 cover transitional lending (construction lending and bridge financing). To tie everything together from the perspective of a real debt capital user we will then have a senior debt user (guest speaker) discuss these various instruments and their application from the perspective of a borrower. Why do borrowers use different types of debt (fixed, floating, IO, amortizing, hybrid IO, mezz, preferred equity etc. under different situations be they for first mortgages, bridge financing, distressed property purchases, development, etc.

A significant part of the course will also teach the student how to analyze bonds and deals in the \$800 billion CMBS market, the largest public commercial real estate debt market as well as the rapidly emerging CRE CLO sector. Time allowing the CMBX (synthetic CRE derivative) market and it’s use in hedging, trading, investment and shorting CMBS and CRE will also be covered. The CMBS markets have financed as much as one quarter of all commercial real estate debt. They were also at the heart of the recent commercial real estate bubble, collapse and rebirth. The oft forgotten (in academic courses at least) but very large Agency “CMBS (multifamily)” markets including FNMA DUS MBS, FHLMC K certificates and Ginnie Mae Project and construction loan certificates will be discussed both from a real estate developer’s and an investor’s perspective. Regulations impact on CRE debt flows, property values and the creation of new profitable investment opportunities will also be covered. To tie everything together from the perspective of real estate debt investors, student teams will be given a CMBS deal to analyze on Trepp to learn how institutional investors stress test and analyze CMBS deals. That class will be led by the head of CMBS Analytics at Trepp, Shari Linnick. All students will be given a Trepp account free of charge at the beginning of the semester which may be used by the students for the duration of the course.

All students who would like to understand these critical markets and their connection to the commercial property markets are welcome. The course is particularly appropriate for students wishing to pursue careers in real estate finance and/or trading, lending, creating, investing in, researching, selling or regulating commercial real estate debt and securities. The course is also recommended for students wishing to pursue careers as developers or investors in commercial real estate properties (“ the dirt”) but want to understand how to use the different forms of real estate debt to fund their ventures which ones to use and one and the tradeoffs among different forms of debt.

Please note that because each class meeting is 3 hours, each class will be divided into a first half, 1 ½ hour “A) session”, followed by a break and then a second, 1 ½ hr B) session” as noted below. In some cases two different topics will be covered, or a guest speaker will present in one half and then a regular lecture in the other half etc. Students should prepare for both sessions for each class accordingly doing the readings and preparation as required.

COURSE SCHEDULE¹**1. Oct 25: A) Overview of the Commercial Real Estate Debt Markets**

Course requirements, description and logistics. 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. In class "case study" includes an analysis of the links between the commercial real estate debt markets and property markets before, during and after the 2007 market crash, during COVID and a discussion as to where we are now in the CRE property/debt capital market cycle.

Readings:

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

Optional: Deloitte Expectations and Market Realities in Real Estate 2021,
IMF Report: Policies for Macrofinancial Stability: Options to Deal with Real Estate Booms

(B) 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 1B Lecture – Underwriting Commercial Real Estate Mortgages

OCC Commercial Real Estate Lending Handbook pp. 2- 16; pp. 36-47; pp. 49; p. 55; pp. 59 -61; p. 69; pp. 72 – 74;

CRE Underwriting Geltner excerpt. Pp. 442 - 451

Optional: CREFC – Principles-Based Underwriting Framework
Kroll CMBS Property Evaluation Criteria

¹ (A) First half of class on date indicated; (B) Second half of class on date indicated

Floating Rate Form of Loan Agreement

Sherling and Sterling CRE Lending in US

Cash Management and Security Agreement

Assignment: Assignment 1 Underwriting Commercial Real Estate due Nov. 15, 2022.

2. Nov 1: **(A) Underwriting (cont'd)**

A) 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.

B) Commercial Mortgage Backed Securities – A Deep Dive; Agency Multifamily Securities

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.

3. Nov 15: **(A) Commercial Mortgage Backed Securities – A Deep Dive; Agency Multifamily Securities (Cont'd)**

Case study of specific deal BACM 2006-6. Real Estate debt markets from the CMBS originators/structurers perspective: Students will be given documents (prospectus, Trustee report, Servicer report etc.) pertaining to an actual commercial real estate debt markets borrower transaction. We will review and take a tour” through these documents in class so students can do assignment 2 which will be due December 1.

Assignment 2: Commercial Mortgage Backed Securities Analysis (BACM 2006-06) due Nov 29 (max. group of 3).

Readings:

Required: Session 2A Lecture Commercial Mortgage Backed Securities
BACM 2006-6 Case Materials

Optional: CREFC Presentation CMBS 101

CREFC CMBS E-Primer

FNMA DUS Program

Freddie Mac K Multifamily Presentation

Assignment: Assignment 1 Underwriting Commercial Real Estate due today unless notified otherwise (max. group of 3).

(B) CRE Subordinated Debt (B Notes, Mezzanine, Preferred Equity) 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. This class will also provide a foundation for those wishing to take Professor Kravit's Distressed Real Estate course in the spring.

Readings: Session 4A) Subordinate Debt Lecture

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

4. Nov 22: **A) Guest speaker Michael Nagelberg, Managing Director, Real Estate Debt Strategies Group, Blackstone** will discuss the analysis, risks and opportunities in construction/development loans; bridge financing; land loans; impact of Basel III and High Volatility Commercial Real Estate (HVCRE) loan classifications on developer financing and then follow with a specific case discussion at Hudson Yards.

Readings: Michael Nagelberg Presentation, read and be prepared to discuss. Transitional Lending Notes Construction Lending Industry Standard Practices Applicable to Construction Loan Litigation (Optional) AIA Pay application excel form. (Optional)

(B) CRE Subordinated Debt (B Notes, Mezzanine, Preferred Equity) Cont'd)

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 4A) Subordinate Debt Lecture

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

5. Nov 29: **(A) and (B) CMBS Secondary Market Investing and Analytics**

This class will be held in class using Trepp analytics led by guest speaker, Shari Linnick, VP CMBS Analytics, Trepp, LLC where students will gain hands-on experience in using Trepp 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 from the perspective of a bond portfolio manager.

Assignment 2: Commercial Mortgage Backed Securities Analysis (BACM 2006-06) due.

6. Dec 6: **(A) CRE Collateralized Loan Obligations (CRE CLOs) and Unsecured REIT Debt**

Guest speaker Steven Marks, Managing Director, Head of CMBS, REITs, and CRE CLOS, Fitch Ratings will present on the rapidly growing CRE CLO market (issuance in 2021 hit a record \$42B annualized), what are the forces behind it's growth, how bridge loan lenders use CRE CLOs to fund bridge loans, implications for bridge loan users, how to analyze a CRE CLO, who is investing in it. He will also discuss the "small corner" of unsecured REIT debt markets, including the size of the markets, comparison with corporate debt, how to analyze the credit risk of unsecured REIT debt.

Readings: 4A) CRE CLO and Unsecured REIT lecture notes.

B) John Lippman, Sr. Director Portfolio Manager, New York Life Real Estate Investors. Real Estate Debt Strategies: The User's Perspective This class will tie together much of what we have learned about real estate debt in the course. Through several real cases, Mr. Lippman will discuss how and when to use various real estate debt products (e.g. first mortgages, mezzanine finance, preferred equity, bridge finance, construction loans etc.) and covenants in various situations from the perspective of a user (borrower) and their tradeoffs.

Final Exam to be done at home. Exam period will be from December 9 in the late afternoon (depending on when Samberg Institute publishes it on CANVAS) until Dec 18 11:59PM. Exam will likely be 3 to 4 hours in length and must be taken continuously once started.

N.B. If time allows we will cover Investing, hedging and shorting with "synthetic CRE debt" (CMBX); CRE Credit Default Swaps).

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

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.

Students found in violation of the CBS Honor Code will receive an automatic F for the assignment or exam and an F for the course.

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.

Type	Designation	Grade	Preparation of submission	Discussion of Submission*	Discussion of Concepts**
A	Group Work (Assignments and Cases)	Same grade for all group members	By the group	Permitted to discuss (within group)	Permitted
B ¹	Individual w/ Discussions of Concepts and Submission	Individual grade	Individual preparation	Permitted to discuss; sharing solutions or submission files is not allowed	Permitted

B ²	Individual w/ Discussions of Concepts Only	Individual grade	Individual preparation	Not permitted to share/discuss solutions or submission	Permitted
C	Individual (Final Exam)	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	15%
Assignments (type A – group work)	15%
Cases (type A – group work)	20%
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 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 commercial and residential real estate finance and capital markets including currently President, The Minot Group* (real estate finance and capital markets consulting to hedge funds, private equity, REITs, banks and insurance companies); Co-head Financial Analytics and Structured Transactions, RBS; Chief Investment Officer, Real Estate Division, Wachovia/Wells Fargo; Head of Commercial Real Estate Research, Wachovia Capital Markets; Head of Structured Products Research, Wachovia Capital Markets; Managing Director Principal Bear Stearns (commercial and residential real estate securities); Senior Capital Markets Economist Federal Reserve Bank of NY and Bank of England. He was a top three-ranked Institutional Investor All American Research Analyst for three years.

He also invests in real estate development projects in the US (LA apartments, distressed retail, Single Family Rentals, RMBS and CMO hedge fund, real estate private equity in Asia, U.S. mezzanine and bridge funds and has developed condominiums in NYC. His passion for real estate started with his work on the redevelopment of Boston's waterfront now known as the Seaport District as a sophomore at MIT.

He is a full time professor in the MBA program at the Columbia Business School and was formerly an adjunct professor at the Columbia Business School and the Stern School of Business, New York University. He serves periodically as faculty advisor on Columbia Business School Chazen trips (Thailand/SE Asia; Rwanda/Tanzania) and is the faculty sponsor of Chazen-Real Estate Association trips abroad (e.g. the postponed Spring 2020 Australia trip).

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 where he was 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 Duke University and the Wharton School of Business, University of Pennsylvania.

*The Minot Group LLC was voted one of America's Best Management Consulting Firms by Forbes in 2017, 2018, 2019, 2020 and 2021. Past and current clients include Alliance Bernstein, Alinma Investment Co., Centerbridge, China Construction Bank, Citadel, Citigroup, Deutsche Bank, Fidelity, Fortress, FHLB, Goldman Sachs, Housing Finance Fund of Iceland, McKinley and Co., McKinsey and Co., McGraw Hill, MFS Investment Mgmt., Parthenon Capital, Ping An of China, the Securities and Exchange Commission, Verisk, and Wells Fargo.