Course Outline

Course Code   : RE4807
Course Title   : Real Estate Risk Analysis and Management
Semester   : Semester 2, Academic Year 2024/2025
Faculty   : Assistant Prof Li Zhonglin
Department   : Real Estate
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Overview

This course introduces the concepts, principles, theories, techniques and practices of risk analysis and management in real estate investments. Topics include concept of real estate market risks, real estate strategic risk management, Value-at-Risk (VaR), sensitivity and scenario analyses, Monte Carlo simulation, risk hedging and property derivatives, option pricing theory and real options.

Learning Outcomes

Through this course, student will be able to:
- Understand why risk management is important in real estate investments.
- Understand the fundamental philosophy behind risk management.
- Gaining an understanding of the DCF approach used by private equity and finance professionals.
- Understand the benefits and the potential inapplicability of Monte Carlo methods.
- Understand what VaR is measuring and risk of using VaR.
- Understand concepts of forward contracts and option contracts.
- Understand fundamental idea behind real option.
- Process of binomial model for real option.

Course Prerequisite(s)

RE3701 Real Estate Investment Analysis

Course Preclusion(s)

Nil

General Guide & Reading

- Geltner, D., Miller, N., Clayton, J and Eichholt, P (2007), **Commercial Real Estate Analysis and Investments**.

Tentative Schedule & Outline

Week	Date	Topic	Activity
1	13 – 17 Jan	Course Introduction	
2	20 – 24 Jan	Introduction to Risk Management	
3	27 Jan – 31 Jan *CNY: 29 –30 Jan.*	**No class**	Distribution of individual project

4	3 – 7 Feb	Sensitivity and Scenario Analysis	
5	10 – 14 Feb	Monte Carlo Simulation	
6	17 – 21 Feb	Value-at-Risk for Real Estate Risk Management	Distribution of group project
	22 Feb – 2 Mar	**RECESS WEEK**	
7	3 – 8 Mar	WACC Review	Individual project due Distribution of group project
8	10 – 14 Mar	Introduction to Derivatives	
9	17 – 21 Mar	Forwards	
10	24 – 28 Mar *28 Mar: NUS Well-Being Day*	Options	
11	31 Mar – 4 Apr *31 Mar: Hari Raya Puasa*	Real Options	
12	7 – 11 Apr	Review	Group project due
13	14 – 18 Apr *18 Apr: Good Friday*	Test	
	19 – 25 Apr	**READING WEEK**	
	26 Apr – 10 May *1 May: Labour Day*	**EXAMINATION (2 WEEKS)**	

Assessment

Assessment Components	Weightage (%)
• Group Project	30
• Individual Project	30
• Class participation and in-class exercises	20
• Final Test	20
Total	**100**

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Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

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- http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct
- http://nus.edu.sg/osa/resources/code-of-student-conduct

About me

I am an assistant professor in the Department of Real Estate, NUS Business School, National University of Singapore. I am an empirical IO economist with research interests in the broad areas of industrial organization and urban economics. My current research focuses on retailers and consumer welfare. I obtained a PhD degree in economics at the University of Chicago Booth School of Business.