

**Course Name: Seminar on Structure Finance**

**Spring 2011**

**Department of Finance**

**National Taiwan University**

Instructor: Dr. Hsien-hsing Liao

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Class hours: Monday 9:10 am – 12:10 pm

Office hours: by appointment

Class Room: Management Building #2, Rm. 305

**Course Materials:**

1. Lecture Notes and Research papers

2. Reference books:

Project Finance:

(1) Esty, Benjamin C. , Modern Project Finance , John Wiley & sons, Inc., 2004, 新月圖書

(2) Khan, M. Fouzul Kabir and Robert J. Parra, Financing Large Projects---Using Project Finance Techniques and Finance , Pearson Prentice Hall, 2003, 雙葉

(3) John D. Finnerty , Project Financing , John Wiley & Sons. Inc , 1996 , 雙葉

Asset Securitization:

(1) Wen-dar Chen, Hsien-hsing Liao, and Ahyee Lee, *Asset Securitization. Theory and Practice*, 2002, Taipei: BestWise Co. Ltd , 智勝.

(2) Frank J. Fabozzi , The Handbook of Fixed Income Securities , 5th ed. McGraw-Hill , 2004.

Real Estate Finance:

(1) Real Estate Finance and Investments , Brueggemann and Fisher, 12ed. 新月圖書

**Course Objective and Description:**

The major purpose of this course is to help students develop research projects on structure finance related topics. The topics will cover the related topics of structure finance, including a review of the content of structure finance and related researches. The course is organized into three parts. The first part is an overview, which includes a brief introduction of the essences of project finance, real estate finance, and asset securitization. The overview will take around one third of the course to provide background knowledge and possible research extensions and is mainly in the form of lectures and discussion. The second part is a review of related researches include pricing of

structure financing products such as the mortgage-backed securities pricing, interest rate models, CDO pricing and REITs pricing. The second part will be held in the form of student presentation and discussion. The third part will be a project proposal presentation by class participants. No class sitting-in (旁聽) is allowed without permission.

### **Grading Policy:**

1. The course grades will be based on the following elements:

Miterm Assignment.*	10%
Term Project**	40%
Presentation and Participation	50%

\*.Midterm assignment can is either a review on the related topics of structure finance or the introduction part of your term project.

\*\*.Term Project means a research proposal related to the class in the end of the semester

### **Course Schedule and Contents:**

wk1-(02/22): Course Introduction

wk2-(03/01): Introduction to Structure Finance

wk3-(03/08): Introduction to Project Finance

wk4-(03/15): Introduction to Real Estate Development and Securitization

wk5-(03/22): Pricing issues on Structure Financing Products

**wk6- wk13: 8 weeks**

### **Paper list:**

#### **►Interest Rate Models:**

1. Vasicek, O., 1977, "An Equilibrium Characterization of the Term Structure," Journal of Financial Economics, 5, pp.177-188.
2. Cox, John C., Jonathan E. Ingersoll, Jr. and Stephen A. Ross (1985b) "A Theory of the Term Structure of Interest Rates," Econometrica, 53, pp. 385-408.
3. Chen, R.-R., and L. Scott., 2003, Multi-Factor Cox-Ingersoll-Ross Models of the Term Structure : Estimates and Tests from Kalman Filter Model, Journal of Real Estate Finance

and Economics, 27:2, pp.143-172

4. Heath, K., R. Jarrow, and A. Morton (1992), "Bond Pricing and the Term Structure of Interest Rate : A New Methodology," *Econometrica* 60, pp. 77-105.
  5. Ho, T. S. Y., and S. B. Lee (1986), "Term Structure Movements and Pricing Interest Rate Contingent Claims," *The Journal of Finance*, 41, pp.1011-29.
  6. Hull, J., and A. White (1990a), "Pricing Interest Rate Derivative Securities," *Review of Financial Studies*, 3, pp.573-92.
  7. Vasicek, O., 2005," The economics of interest rates" *Journal of Financial Economics* 76 (2005) 293–307.
  8. Qiang Dai, Kenneth J. Singleton and Wei Yang, 2007, "Regime Shifts in a Dynamic Term Structure Model of U.S. Treasury Bond Yields, *Review of Financial Studies* 20, 1669-1706.
  9. Turan G. Bali, Liuren Wu, 2006, "A comprehensive analysis of the short-term interest-rate dynamics", *Journal of Banking & Finance* 30, 1269 – 1290.
- \*\*\*Kimmel Robert L., 2004, "Modeling the term structure of interest rates: A new approach", *Journal of Financial Economics* 72, 143 – 183.
- \*\*\*Dai Qiang & Kenneth J. Singleton, 2002, "Expectation puzzles, time-varying risk premia, and affine models of the term structure", *Journal of Financial Economics* 63, 415 – 441.
- \*\*\*Bandi Federico M., 2002, "Short-term interest rate dynamics: a spatial approach", *Journal of Financial Economics* 65, 73 – 110.
- \*\*\*Andrea Buraschi and Alexei Jiltsov, 2007, "Habit Formation and Macroeconomic Models of the Term Structure of Interest Rates, *Journal of Finance* 62, 3009-3063.

#### ► MBS Pricing

10. Titman, Sheridan, Stathis, Tompaidis, and Shergey Tsyplakov, 2005, "Determinants of Credit Spreads in Commercial Mortgages", *Real Estate Economics*, 33(4): 711-738.

#### ► CDO/CLO/CBO Pricing

11. Hull J.C. and A. White, 2006, "Valuing Credit Derivatives Using an Implied Copula Approach", *Journal of Derivatives* 14, 2, 8-28.
  12. Ian Iscoe, Alexander Kreinin, 2007, "Valuation of synthetic CDOs", *Journal of Banking & Finance*, 31, 3357-3376.
  13. Y.M. Kaniovski, G.Ch. Pflug, 2007, "Risk assessment for credit portfolios: A coupled Markov chain model", *Journal of Banking & Finance*, 31,2303-2323.
- \*\*\*Nabil Tahani, 2006, "Credit Spread Option Valuation under GARCH", *Journal of*

Derivatives 14, 1, 27-39.

\*\*\*Anna Kalemanova, Bernd Schmid, and Ralf Werner, 2007, “The Normal Inverse Gaussian Distribution for Synthetic CDO Pricing”, *Journal of Derivatives* 14, 3, 80-93.

#### ► **Corporate Related Issues**

14. Mansi, S. and D. Reeb, 2002, “Corporate Diversification: What Gets Discounted?” *Journal of Finance* 57, 2167-2183.
15. Fama, E. and K. French, 2002, “Testing Trade-Off and Pecking Order Predictions about Dividends and Debt,” *Review of Financial Studies* 15, 1-33.
16. Flannery, Mark and Kasturi P. Rangan, 2006 “Partial Adjustment towards Target Capital Structure, *Journal of Financial Economics*, Vol. 79, pp.469-506.
17. Faulkender, M. and Michael Petersen, 2005, “Does the Source of Capital Affect Capital Structure?”, *Review of Financial Studies*.
18. Nianyun (Kelly) Cai , Jean Helwege and Arthur Warga, 2007, “Underpricing in the Corporate Bond Market”, *Review of Financial Studies* 20, 2021-2046.
19. Kisgen, D., 2006, “Credit Ratings and Capital Structure”, *Journal of Finance*.
20. Yu Fan, 2005, “Accounting transparency and the term structure of credit spreads”, *Journal of Financial Economics* 75, 53 – 84.

#### ► **REIT Related**

21. Brown T. David and Timothy J. Riddiough, 2003, “Financing Choice and Liability Structure of Real Estate Investment Trusts”, *Real Estate Economics*, 31(3): 313-346.

**Wk14-17: Term project presentation (Last class: 06/14)**