

This is a current, in-depth introduction to the analysis of structured securities. It takes the student through a realistic hands-on exercise leading to the assignment of credit ratings and discovery of the technical causes of the Financial Tsunami. Minimum requirements are intermediate level of Excel facility, knowledge of finance and statistics.

Asset Securitization

Class/location details

Instructor: Ann Elaine Rutledge

Office:

Phone;; Email:

Office Hours: by appointment

Course Website: All relevant materials and announcements will be uploaded to LMES website (<http://lmes2.ust.hk/portal>)

Teaching Assistant:

Office hours: by appointment

Description

This is a foundation course in the terminology, concepts, risk measures and risk management techniques of asset securitization. Asset Securitization is engine of the “spot” or “cash” market for structured securities backed by collateral for which no third-party market exists. The focus of this course is learning to analyze and build asset securitizations.

Prerequisites

There are no firm prerequisites, but it is helpful for students to know something about basic fixed income mathematics and to use Excel at an intermediate level.

Required Textbook

Ann Rutledge & Sylvain Raynes, *Elements of Structured Finance*, Oxford University Press, 2010, plus assigned cases and notes uploaded on to the LMES website.

Course Objectives

The big challenge of this course is learning to reason about value and risk with greater uncertainty than is typical in courses about markets with hard and fast norms. Students will learn how to put esoteric structured finance terminology into practice by reading cases; they will make discoveries about risk and value using models of different levels of complexity with respect to the analysis of time and probability. This course rewards the curious, hard-working student with strengthened financial judgment, deeper understanding of the meaning of financial math, and (hopefully) more enthusiasm for risk.

Asset Backed Securities: Course Outline

Day 1 Foundation Concepts of ABS/RMBS

- i- Terminology & Demonstration [9:00-10:00 AM]
- ii- Structured finance vs. corporate finance [10:00 – 10:45 AM, with a break]
 - Structured finance as a partitioning of the corporation’s operating and financing components
 - Linear vs. non-linear value propositions
 - Risk/value measurement conventions between the two worlds
- iii- Legal foundations off-balance sheet securitization [10:45 – 11:15 AM]
 - Legal risks in new securitization markets that disappear
 - Trinity of True Sale: the legal risks that do not disappear
 - The Mathematics of True Sale
- iv- Market and operational structures [11:15 AM – 12:30 PM]
 - De-constructing and reconstructing a market
 - Market institutions: the third-party players
 - Risk transfer mechanisms
 - The periodic payment timeline

This is a current, in-depth introduction to the analysis of structured securities. It takes the student through a realistic hands-on exercise leading to the assignment of credit ratings and discovery of the technical causes of the Financial Tsunami. Minimum requirements are intermediate level of Excel facility, knowledge of finance and statistics.

- v- A static rating model for structured finance: the "BOTE" method [2:30 – 3:30 PM]
 - The BOTE rating "scale"
 - Sizing risk and capital
 - The Average Life calculation
- vi- Collateral Risk [3:45 AM – 5:30 PM]
 - Static pools vs. servicer portfolios
 - Recognizing and accounting for losses and recoveries
 - Generic vs. asset-specific features of loss curves
 - Prepayment risk in the context of credit analysis
- vii- Introduction to reading and interpreting an Offering Memorandum [3:45 – 5:00 PM]

Day 2 Cash Flow Modeling of ABS/RMBS (Time-Dependent, Single Scenario Analysis)

- i- Review of the Case Study [9:00 – 9:45 AM]
- ii- Cash flow modeling of asset pools (one-loan version) [9:45 – 12:30 PM, with break]
 - Working with dollars and accounts
 - Calculating the Average Life of the pool given prepayment and default data
 - Preparing the asset side of the cash flow analysis
- iii- Cash flow modeling of liabilities (two-class structure [1:30 – 3:00PM])
 - Modeling the payment waterfall
 - Correct implementation of principal payment regimes
- iv- Organization of the Cash Flow Model [3:10 – 5:00 PM]

Over the weekend, delegates will build a technically correct cash flow model for a plain vanilla transaction structure with two classes of securities. This segment builds intensively on the instruction in Days 1-2. The completed model is due at 9 AM on January 18.

Cash flow modeling will be conducted outside of class time

Day 3 ABS/RMBS Cash Flow Analysis & Model Review

- i- Cash Flow Lab [9:00 AM – 11 AM]
 - Delegates will apply asset-side stresses and consider the results
 - Delegates will look at variations on the principal payment structure at different pricing points and consider the nature of pro rata vs. sequential structures.
 - Delegates will add a reserve account to the model.
- ii- Financial foundations [11:15 PM – 12:30 PM]
 - The meaning of ratings
 - The structured rating scale
 - Key financial variables
 - Parity conditions
 - Power and precision in modeling
- iii- Structure and Value [1:30 PM – 5:00 PM]
 - Introduction to the method of pricing ABS
 - Nonlinear convergence
 - Defining complexity in structural terms

Day 4 Summit on the Financial Crisis & Exam

- i- Large group exercise conducted [9:00 AM – 12:30 PM]

This is a current, in-depth introduction to the analysis of structured securities. It takes the student through a realistic hands-on exercise leading to the assignment of credit ratings and discovery of the technical causes of the Financial Tsunami. Minimum requirements are intermediate level of Excel facility, knowledge of finance and statistics.

ii- Exam [1:30 – exam completion]