2016

370-01 Financial Markets and Institutions

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Course Objectives and Student Outcomes:
This course is designed to introduce students to financial markets and institutions. Students should be able to discuss and understand with some depth the financial system, how debt securities and derivatives are evaluated, the influence of macroeconomic factors on the level and structure of interest rates, the markets for corporate, government, intermediate, global, and asset-backed securities, how complex debt structures are constructed, how financial institutions and Federal Reserve operate, and the other topics indicated below.

SLOs:
At the end of this class students will be able to:
- Discuss and understand with some depth the financial system
- Evaluate debt securities and derivatives
- Differentiate the major types of bonds, asset-backed securities, and investment funds in terms of their characteristics.
- Explain the influence of macroeconomic factors on the level and structure of interest rates
- Apply the terms structure theory to forecast changes in interest rates
- Conduct bond portfolio horizon analysis
- Conduct a credit analysis
- Construct different fixed-income portfolios based on total return and liability management objectives
- Value bonds with embedded option using binomial interest rate trees
- Derive the binomial interest rate equilibrium model and calibration model
- Explain the markets for corporate, government, intermediate, and global securities
- Analyze MBS and ABS in terms of their features
- Explain the features of debt derivatives: futures, options, and swaps
- Use derivatives to change the return-risk features of a fixed-income portfolio
- Explain how complex debt structures are constructed
- Explain how commercial banks, financial institutions, and the Federal Reserve operate
- Explain the major financial events and crisis that have occurred over the last 30 years
- Use the Bloomberg system at the same level it is used by professional fund managers who actively use the system to manage their fixed-income portfolios.
Text

Reference:
- Mishkin and Eakins, *Financial Markets and Institutions*

Course Format
- On-line Audio/PPT, PPT, and Text Reading
- Assigned end-of-the chapter problems
- Bloomberg Exercises
- Discussion Board Topics

Canvas Folders
- Modules: PPT, end-of-chapter problems, test review material, solutions, and Excel programs can be downloaded from the modules
- Assignments can be uploaded from the modules

Module 1: Bond Evaluation and Selection

Topics
- Overview of the Financial Market
- Time Value of Money
- Properties of Assets
- Value and Rate of Return
- Bond Theorems
- Level of Interest Rates
- Term Structure of Interest Rates
- Bond Risk
- Duration
- Convexity
- Debt Management
- Yield Curve Shifts and Strategies
- Total Return Analysis
- Credit Analysis
- Fundamental Bond Analysis
- High-Yield Bond Analysis

SLOs
- Calculate the values and rates of return on bonds
- Explain the major theories of term structure of interest rates
- Explain the relation between bond risk, default probabilities, and yield spreads
- Explain the impacts of macroeconomic factors on the structure of interest rates
- Explain the impacts of expectations on the structure of interest rates
- Conduct bond portfolio horizon analysis
- Construct different fixed-income portfolios based on total return and liability management objectives
- Apply Bloomberg to bond evaluation and selection
Readings and Assignments
- Johnson, *Debt Markets and Analysis*, Chapters 3-6
- Johnson, Appendix A: Primer on Return, Present Value, and Future Value
- PPT: Chapters 3-6, and Appendix A
- Assigned End-of-Chapter Problems
- Bloomberg Exercises from Chapter 3-6

Module 2: Valuation of Bonds with Embedded Options: Binomial Interest Rate Valuation Approach

Topics
- Binomial Trees
- Valuation of Callable Bonds
- Valuation of Putable Bonds
- Sinking Funds
- Convertible Bonds
- Estimating the Binomial Tree
- Calibration Model
- Duration and Convexity

SLOs
- Value bonds with embedded option using binomial interest rate trees
- Derive the binomial interest rate equilibrium model and calibration model

Readings and Assignments:
- Johnson, *Debt Markets and Analysis*, Chapters 13
- PPT: Chapters 13
- End-of-Chapter Problems
- Bloomberg Exercises

Module 3: Bloomberg Trading Room Session

Topics
- Bloomberg Workshop

Readings and Assignments
- Johnson, *Debt Markets and Securities*, Chapter 2

Module 4: Debt Markets

Topics
- Overview of the Financial System
- Corporate
- Treasury and Agency
- Municipals
- Intermediary Securities
- Global Debt Securities
SLOs
- Differentiate the major types of bonds and investment funds in terms of their characteristics
- Explain how the different financial markets function
- Conduct a credit analysis of corporate bond

Readings and Assignments
- Johnson, *Debt Markets and Securities*, Chapters 1 and 7-9
- PPT: Chapters 7-9
- Bloomberg Exercises

Module 5: Mortgage-Backed Securities, Asset-Backed Securities, and Securitization
Topics
- Agency Mortgage-Backed Securities
- Collateralized Mortgage Obligations
- Stripped Mortgage-Backed Securities
- Non-Agency MBS
- Commercial MBS
- Asset-Backed Securities
- Collateral Debt Obligations
- Analysis of Asset-Backed Securities

SLO
- Analyze MBS and ABS in terms of their features

Readings and Assignment:
- Johnson, *Debt Market and Analysis*, Chapter 10
- PPT: Chapter 10
- Chapter 10 and accompanying PPT
- End-of-Chapter Problems
- Bloomberg Exercises

Module 6: Commercial Banking and Federal Reserve
Topics
- History of Commercial Banking
- Types of Banking
- Sources and Uses of Fund
- Bank Holding Companies
- Structure of FRS
- Federal Reserve Policies
- Money Multiplier
- History of Banking and Financial Events and Crisis

Readings and Assignments
- PPT: Banking and the FRS
- Document: History of Banking Events and Crisis
Module 7: Swaps

Topics
- Interest Rate Swaps
- Forward Swaps and Swaptions
- Valuing Swaps
- Currency Swaps
- Credit Default Swaps

SLOs
- Use derivatives to change the return-risk features of a fixed-income portfolio
- Explain how complex debt structures are constructed

Readings and Assignments
- Johnson, Debt Markets and Analysis, Chapter 14
- PPT: Chapters 14
- End-of-chapter problems
- Bloomberg Exercises

Module 8: Debt Derivatives

Topics
- Caps
- Floors
- Collars
- Interest Rate Futures: Applications and Pricing
- Interest Rate Options: Fundamentals
- Interest Rate Options: Applications

SLOs
- Use derivatives to change the return-risk features of a fixed-income portfolio
- Explain how complex debt structures are constructed

Readings and Assignments
- Johnson, Debt Markets and Analysis, Chapters 11 and 12
- Johnson, Derivatives, New Chapters 4 and 6 (Drafts)
- PPT: Chapters 11 and 12
- End-of-chapter problems
- Bloomberg Exercises
TESTS AND GRADING

1. **Tests**: Tests will be based on material from lectures, readings, and problems. There will be two exams during the semester and a final.

   - Test 1: 20%
   - Test 2: 20%
   - Test 3: 20%
   - Final: 20%
   - Problems: 8%
   - Bloomberg Assignments: 10%
   - Discussions: 2%

2. **Make-Up Tests** will be given only to students who receive permission from me in advance of the test date.

3. **Modifications**: The course is subject to modification during the semester.

4. **Grading Scale**:

   - 93-100: A
   - 89-92: A-
   - 85-88: B+
   - 80-84: B
   - 77-79: B-
   - 74-76: C+
   - 65-73: C
   - 50-64: C-
   - 40-49: D
   - 0-39: F