

NEW YORK UNIVERSITY STERN SCHOOL OF BUSINESS  
**Debt Instruments and Markets (UB.0026.01)**  
Spring 2017, MW 2-3:15pm

Instructor: Bruce Tuckman

Office Hours: MW 3:30-5pm and by appointment, KMC 9-92

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Teaching Assistant: 

### **Course Description**

This course has three parts. The first part of the course introduces fixed income markets and market participants in the United States, Europe, and Japan, with an emphasis on recent developments. The second part of the course covers the theory and practice of pricing and hedging in fixed income markets. The third part of the course does a deep dive into selected securities and markets.

While every effort has been made to limit the mathematical complexity of the course, students should be aware that fixed income is inherently a quantitatively demanding subject.

### **Text and Materials**

Bruce Tuckman and Angel Serrat, *Fixed Income Securities: Tools for Today's Markets*, Third Edition, John Wiley & Sons, 2012.

Lecture slides and problems/sample exam questions with answers will be distributed at the start of the semester.

### **Exams**

There will be a midterm and a final. Each exam will be multiple choice and closed book, although a calculator is expected. Smart phones will NOT be permitted. Each exam will focus on half the course, but knowledge of material from the first half may be required for the final.

Students are expected to arrange their schedules to be present on both exam dates:

Midterm: Wednesday, March 22

Final: Monday May 15

## **Project**

Students, working in groups of 2 or 3, will complete a project on a topic of their choice. Individual inputs will be clearly identifiable. Projects can range from a 10-page paper on government policy in fixed income markets to a spreadsheet that replicates the Bloomberg pricing of a fixed income derivative.

To ensure a high-quality result, students will deliver the project according to the following schedule. Dates are not negotiable:

Proposals due on Wednesday, February 15.

First drafts due on Wednesday, March 29.

Final drafts due on Wednesday, May 3.

Students must meet with the professor at least once before the submission of the proposal and at least once after the submission of the first draft.

A small number of projects will be given the option of presenting their work to the class on Monday, May 8.

## **Grading**

The course grade will be determined by the average of the two exam grades and the project grade.

## Course Outline

(Chapter numbers refer to Tuckman and Serrat.)

Overview of Global Fixed Income Markets (Overview Chapter<sup>\*</sup>)

Prices, Discount Factors, and Arbitrage (Chapter 1)

Spot, Forward, and Par Rates (Chapter 2)

Returns, Spreads, and Yields (Chapter 3, pp. 99-105, 110-112, 113-116)

One-Factor Risk Metrics and Hedges (Chapter 4)

Determinants of the Term Structure (Chapter 8, pp. 245-248)

Multi-Factor Risk Metrics and Hedges (Chapter 5)

Empirical Approaches to Risk Metrics and Hedging (Chapter 6)

Repurchase Agreements and Financing (Chapter 12)

Additional reading: "The Deal of the Century," by Tom Junod, Esquire, September 11, 2009.

<http://www.esquire.com/features/barclays-deal-of-the-century-1009>

Forwards and Futures: Preliminaries (Chapter 13, pp. 351-357)

Note and Bond Futures (Chapter 14, pp. 373-383, 386-390; Chapter 13, pp. 359-363)

Short-Term Rates and Their Derivatives (Chapter 15, pp. 401-411, 417-422, 424-432; Chapter 13, p. 371)

Swaps (Chapter 16, pp. 435-450)

Corporate Bonds and Credit Default Swaps (Chapter 19)

Mortgages and Mortgage-Backed Securities (Chapter 20, pp. 563-580, 584-589)

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<sup>\*</sup> Please note that the overview chapter in the book is stale relative to what will be presented in class.