National University of Singapore Business School

Department of Finance

FIN3717 – Fixed Income Securities (Semester 1, 2026-2027)

Instructor: Dr Joseph Lim

Office:

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Time: Friday, 12pm – 3pm

Location: BIZ2-510

Module Description:

This module focuses on the valuation of fixed income securities, such as bonds, bond derivatives, interest rate derivatives, interest rate swaps, mortgages, and asset-backed securities. We will focus mainly on the valuation of these instruments and on interest rate risk and how to manage it.

Learning Objectives

By the end of this course, students will be able to:

- Describe the bond markets and its instruments
- Explain how the fixed-income securities are valued and traded
- Analyze interest rate dynamics
- Measure and manage the risks of fixed-income securities
- Describe and analyze the basics of the Mortgage-Backed and Asset-backed securities
- Understand the fundamentals of credit risk analysis
- Understand the basics of derivative markets and instruments, including forwards, futures, swaps, and options
- Explain the basics of the valuation of bonds with embedded options.

Prerequisites

Knowledge of standard financial concepts such as market efficiency and arbitrage will be assumed. You should have taken one basic finance module and one module in Investment Analysis or the equivalent.

Class Materials

Presentation material from class will be provided on Canvas.

Textbook: The text for this class is *Fixed Income Analysis*, by James F. Adams and Donald J. Smith, Wiley (2019). The (tentative) module outline below includes chapter references for material from this book related to each topic.

There are several other books with similar coverage of topics, by authors such as Frank Fabozzi, Tuckman and Serrat, or Suresh Sundaresan. You are certainly free to look at these books if you find it helpful.

Grading weightage

- Group project: 30% - students will work in groups of 5 members. Each group is to write a report of not more than 10 pages and make a presentation at the end of term of a topic related to fixed income and approved by the instructor. The project presentations allow the rest of the class to learn a bit more of the world of fixed income.
- In-class tests: 60% - There are two in-class tests, each worth 30%.
- Class participation: 10%

The tests are to be taken at the scheduled time. In case of exceptional circumstances (e.g., illness/injury, family bereavement, etc.), then either a make-up test or assignment will be given, or the credit will be added to another component of the grade, depending on the situation. Obviously, drama and life are not always predictable, and if you have some issue which prevents you from taking an in-class test at the scheduled time, please inform me as soon as you are aware of the situation. It is usually much easier to deal with such situations before the test than after. A medical certificate will be needed in the case of illness.

In-class tests and group presentations:

Dates and details will be announced later.

Group Projects:

All members of a group will receive the same grade for the project. Each group should submit a single copy of the work, containing the names of all group members.

Submit the group report and presentation slides electronically through Canvas, a week before the first day of presentations.

Acknowledgement:

This outline is largely based on a version of the module offered by Professor Andrew Lim. My sincere thanks to him.

Module contents:

Chapter references are from Veronesi. Adjustments might be made during the course if the pace is faster/slower than expected.

(I) Introduction to Fixed income Securities, Bond Characteristics and Fixed Income Markets

  a. Chapters 1 and 2

(II) Pricing and Yields of Fixed Income Securities

  a. Chapter 3

(III) Mortgage-backed securities

  a. Chapter 4.

(IV) Bond Duration and Bond Convexity

  a. Chapter 5:

(V) Fundamentals of Credit Risk

  a. Chapter 6

(VI) Spot Rates, Forward Rates. Yield Curves and Theories of Term Structure

  a. Chapter 7

(VII) Derivatives – quick review

  a. Class notes

(VIII) Valuation of bonds with embedded options

  a. Chapter 9

(IX) Bond Immunization

  a. Chapter 13

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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.

Plagiarism is ‘the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. **In case of any doubts, you should consult your instructor.**

Additional guidance is available at:

http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct

Online Module on Plagiarism:

http://emodule.nus.edu.sg/ac/