

Fixed Income Investment Course Structure and Outline

Course Outline

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Course Outline

The teacher

- ▶ For those of you who do not know me
- ▶ My full name is: Jorge Andres Patron Boenheim
- ▶ But you guys can call me George or Jorge if you want to practice your Spanish instead of English
- ▶ I'm happily married to a girl from Chengdu

Contact

- ▶ Office Hours: By appointment
- ▶ Office: Gezhi building 323 (need to check)
- ▶ Contact information:
 - ▶ Open e-mail and QQ for teacher to student communication:
 - ▶ Main: <https://mooc1.chaoxing.com/>
 - ▶ QQ group: 1057421225
 - ▶ e-mail: jorgefii2017open@163.com
 - ▶ password: jorgefii
 - ▶ Private e-mail for back and forth communication regarding the course:
 - ▶ e-mail for questions and other matters: jorge@swufe.edu.cn
 - ▶ e-mail for submitting assignments: paboenhj@outlook.com
 - ▶ Phone: 13402856706
- ▶ Teaching Assistant:
 - ▶ E-mail:
 - ▶ Phone:

Contact

- ▶ Method of Communication:
 - ▶ I will send all needed material to the open e-mail. Only I should send e-mails to that e-mail and I will not check it often
 - ▶ Please do not send me e-mails from that e-mail
 - ▶ I will also send a weekly e-mail containing news items that I find interesting and you guys are welcome to discuss any topic with me during office hours
 - ▶ Personal e-mail, wechat phone call for any questions you might have

Sending E-mail and deadlines

- ▶ Always include a subject in your e-mail that properly describes what the e-mail is about
- ▶ All e-mails without subject will go directly to the junk folder and will not be read
- ▶ For specific topics, you must follow a template that I will send to the open e-mail
- ▶ Topics that require the use of templates: Asking for leave, group or presentation related, giving in homework assignments
- ▶ For the homework assignments, this will be included in the assignment

Sending E-mail and deadlines

- ▶ For groups and asking for leave, I will send the template later
- ▶ Deadlines are final and it is your responsibility to comply with them
- ▶ If you have any problems meeting a deadline, then you must notify me before the deadline
- ▶ Once the deadline is passed, I will not accept anything related to that topic

Background

- ▶ Economics undergraduate in Colombia
- ▶ Masters degree in Economics and Statistics at Humboldt University in Berlin
- ▶ Masters in Finance at Boston College's Carroll School of Management
- ▶ Also your lecturer on Fixed Income Investment

Grading

- ▶ Final exam 40% of the grade
- ▶ Presentation or project 20%
- ▶ Midterm (date to be announced) 15%
- ▶ Participation 15%
- ▶ Core homework assignments 10%

Final exam

- ▶ The exams will contain questions similar to the core homework assignments:
- ▶ The news articles will be part of the midterm, but not the final exam
 - ▶ True and False
 - ▶ Multiple selection
 - ▶ Valuation style exercises (Bond pricing, etc...), price calculations, price discounting, etc

Groups

- ▶ You should form groups of 2 to 3 students
- ▶ I want you to form your groups and send me the the information from March 2nd and no later than March 20th (more about this in submitting emails)
- ▶ Group must have a name and a team leader (Choose a good name!)
- ▶ All communications regarding the presentations should involve the team name, if not I will ignore it or worse
- ▶ Any delay in sending the group information will result in a grade deduction

Groups

- ▶ The team leader is in charge of sending all communication and material to me
- ▶ Choose someone who is organized, can send e-mails professionally, on time and follows the guidelines
- ▶ This will otherwise affect your grade
- ▶ Once you choose the leader, the group leader represents the whole group
- ▶ If you can't find a team please let me know as soon as possible and I will help you find one (has to be before March 20th)

Presentations

- ▶ Depending on the groups we will have the presentation during the last two weeks of class
- ▶ All group members should be there on the day of the presentation
- ▶ If you can not come you should send me an e-mail explaining the reason
- ▶ If you do not come you will receive a 0
- ▶ Minimum two students should present the topic
- ▶ You must send me the presentation slides and a summary of the presentation the day before the presentation. If you do not, I will not allow you to give the presentation

Presentations

- ▶ I will propose some presentation topics, but you are also free to pick a different topic
- ▶ Preferably I would like you to talk about some new and current topics:
 - ▶ Ongoing QE issues (Japan running out of bonds to buy, the Fed unwinding the QE, etc.), the effect of QE and the recent reductions in liquidity fixed-income markets
 - ▶ European, Japanese, Chinese bond markets
 - ▶ Chinese topics (capital controls, outflows, cost of capital, etc.) and effects in fixed income pricing, credit ratings, off-balance sheet financing, securitization, etc
 - ▶ How changes in the repo market are changing fixed-income markets and other related markets (derivatives...)

Homework

- ▶ We will have four or five core homework assignments
- ▶ They are mainly for preparation for the examinations, so if you want to do well in the exams you need to do the homework assignments
- ▶ The homework assignments include excel questions which require you to be familiar with excel valuation formulas
- ▶ They will be graded very lightly
- ▶ The week after the assignments are due, we will solve them in class

Homework

- ▶ I will choose randomly who comes up to the board/computer to solve the problem
- ▶ Note, if you solve it in the homework, but are unable to solve it in the board, I will assume you cheated in the homework
- ▶ So only give in homework exercises that you are able to solve (right or wrong)
- ▶ It is okay if your solution is wrong, as long as it is your solution
- ▶ While we do the online course, I will upload a video of me solving the homework assignments

Homework

- ▶ Although in the homework we can use excel, in the exam you must use a calculator
- ▶ So it is important that you can do all three things (use the formulas, excel and the calculator)
- ▶ Homework assignments will include three types of questions: concept check, practice exercises and data analysis problems
- ▶ The data analysis can be done in excel, but if you want to use something more interesting, please let me know
- ▶ Python, R or Matlab are preferred (SAS is okay, but I have no way of using it right now)

Homework

- ▶ The assignments must be submitted to my e-mail following the guidelines that I will describe there
- ▶ I will probably upload a video explaining the homework
- ▶ I will upload them to the course website one <https://mooc1.chaoxing.com/> and send them to the open e-mail
- ▶ I will ask the TA to upload them to the QQ group

Participation

- ▶ Participation will be worth 15% of your grade
- ▶ Due to the nature of the course this term, we will handle this differently than I usually would
- ▶ After some lessons and news articles I will leave a homework assignment related to the topics discussed in the lecture or the news articles
- ▶ This will be graded separately from the other homework assignments (core assignments) and will replace the traditional participation
- ▶ This assignments will be called “Class Assignment” or CA for the e-mail template

Participation

- ▶ A large part of the participation is usually based on discussions about the weekly news articles
- ▶ Usually we would have two types of participation voluntary and compulsory
- ▶ Voluntary is whenever you volunteer to answer a question on your own
- ▶ This type of participation will be recorded at the end of the class in my notebook
- ▶ Any type of participation is accepted, there is no excuse not to participate and you must participate to achieve a good score

Attendance and News Articles

- ▶ Compulsory participation will be chosen randomly
- ▶ Usually during the required readings, but maybe about something else (like review of a prior lesson)
- ▶ You will have limited opportunities to answer this questions, so make them count
- ▶ For now, we will not be taking attendance

Attendance and News Articles

- ▶ If I learn how to use the MOOC website properly then we can have interactive sessions
- ▶ If we do this, I will make an announcement
- ▶ For now, I will assign news articles, and then upload a short video about them later

Attendance and News Articles

- ▶ All e-mails submitting official class information, groups, homework assignments, class assignments, and leave must follow the following template or will be ignored
- ▶ Each student will submit an official email, and this e-mail must be used to submit all class assignments
- ▶ All official emails must be sent to my outlook email: paboenhj@outlook.com

Class ID

- ▶ I have four fixed income sections this term
- ▶ E-mails submitting official class material must always start with the class ID
- ▶ The class IDs are as follows:
 - ▶ (2019-2020-2)-FEG904-20140329-1
 - ▶ (2019-2020-2)-FEG904-20140329-2
 - ▶ (2019-2020-2)-FEG904-20140329-3
 - ▶ (2019-2020-2)-FEG904-20140329-4

Submitting Email

- ▶ All students must send me an email before the end of week 1 of the semester (Sunday March 1st, Midnight)
- ▶ Anyone not submitting their email by that time will not be allowed to submit any assignments, or any other official coursework
- ▶ This is not optional, if you do not do it, you are assumed to have abandoned the course
- ▶ All emails will have a subject of the following type:
“CLASSID/SUBJECTOFEMAIL/STUDENTID” or
“CLASSID/SUBJECTOFEMAIL/GROUPNAME”
- ▶ For example:
(2019-2020-2)-FEG904-20140329-1/HW1/41500000 or
(2019-2020-2)-FEG904-20140329-2/PRESENTATION/Excellent Group

Submitting Email

- ▶ “CLASSID/EMAIL/STUDENTID”
- ▶ This is all you have to do, do not add any text to the body of the e-mail
- ▶ Once you do this, your ID, email and class will be recorded and archived
- ▶ Very important that you check the email before sending it and make sure that the information is 100% correct

Submitting Email

- ▶ For the presentation groups I will send an email or notification with an excel template to submit your group for the presentation
- ▶ Each assignment will also be notified by e-mail or through the course website
- ▶ Follow the guidelines in each email for the assignments
- ▶ I will tell you exactly how to send the email each time

Recommended text book and readings

- ▶ The recommended text book is:
 - ▶ Tuckman and Serrat *Fixed Income Securities*, Third Edition, Wiley-Finance, 2011
 - ▶ Tuckman and Serrat is one of the standard text books for MBA level fixed income courses
 - ▶ I will base my lectures loosely on the Tuckman and Serrat textbook
- ▶ This textbook may be a bit difficult, but it is the standard for Fixed-Income in U.S graduate courses and for industry practitioners

Recommended text book and readings

- ▶ The book is not required for the course, but if you are interested in these topics this book is very good!
- ▶ It can also get quite difficult, so that is why I'm not requiring you to read it, but I might ask you to read some parts of it
- ▶ This is the book you will have to read if you want to do more advanced topics in fixed income
- ▶ All of the required material will be in the lecture slides, homework assignments and required readings that I will send to you
- ▶ I have the book on pdf and if you want to read it, please bring a usb stick and copy it directly from me

Required readings and news articles

- ▶ This semester we will have two types of required readings
- ▶ Both will be mostly based on news articles
- ▶ We will have at least one weekly current article and we will also cover the major central bank rate meetings and decisions
- ▶ The meetings of the Federal Reserve will usually be covered and they might be part of the examinations
- ▶ The second type of readings will be case based
- ▶ We will cover some special cases related to the course and we will read some news or other articles related to them

Required readings and news articles

- ▶ We will discuss the cases and news in class
- ▶ Please take notes during the discussion so you can prepare them for the examinations

Recommended text book and readings

- ▶ Other recommended textbook:

- ▶ Introduction to Fixed Income Analytics: Relative Value Analysis, Risk Measures, and Valuation, Second Edition by Frank J. Fabozzi and Steven V. Mann
- ▶ Specially chapters 1-5 for lecture 2
- ▶ This textbook is available as ebook through the University's library resources
- ▶ The library has access to the Wiley Online Library and the you can search for it and download it for your own use
- ▶

<https://onlinelibrary.wiley.com/doi/book/10.1002/9781118266649>

Objectives

- ▶ In this course we want to develop a deep understanding of fixed-income markets
- ▶ This includes understanding the market structure (different securities, issuers, investors)
- ▶ How they are priced and what affect the pricing of securities
- ▶ Perform valuation so we can make investment decisions
- ▶ Understand the current market environment through news articles

Objectives

- ▶ We can roughly divide fixed-income topics into two groups
- ▶ Old or traditional topics (pricing, term structure, etc.)
- ▶ And new topics, which mostly include contingent valuation (Mortgages, bonds with options, Forwards, Swaps etc)
- ▶ The second type are very similar to a derivatives course, so we will only cover some topics in that area

Topics

- ▶ Topic 1: Overview of Fixed income Markets
- ▶ Topic 2: Benchmarks, taxes and U.S Treasury Market Instruments
- ▶ Topic 3: U.S Treasury Market Quotes and Market Conventions
- ▶ Topic 4: U.S Treasury Market Structure: Primary market
- ▶ Topic 5: Repo and the secondary market

Topics

- ▶ Topic 6: Discount Factors and Arbitrage Strategies
- ▶ Topic 7: Spot, Forward and Par Curves
- ▶ Topic 8: Rates of Return and Duration
- ▶ Topic 9: Convexity and Key Rate Durations
- ▶ Topic 10: Long Term Capital Management
- ▶ Topic 11: Term Structure Theory

Topics

- ▶ Topic 13: Bond options (if time)
- ▶ Topic 14: Mortgages and Mortgage Backed Securities (if time)
- ▶ Topic 15: Corporate Bonds (if time)