IMPORTANT ANNOUNCEMENTS

Midterm test dry-run

- To facilitate test logistics (Attendance is OPTIONAL)
- Tuesday, 23 February (during recess week) starting at 10:00 am
- Purely technical dry-run
 NO module materials will be discussed during dry-run

Midterm instructions document will be posted starting Wednesday, 17 February at 8 am

Please read carefully!

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Midterm information

Midterm test: <u>Tuesday, 2 March 2021</u> (Week 7)

- During the scheduled lecture session
- Students must enter the Zoom waiting room by
 - 10:00 am (LA1), or
 - 14:00 (LA2)
- 60 minutes long; 25 MCQs
- Open book/notes
- NO internet
- NO backward navigation, randomized order

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Midterm information (cont.)

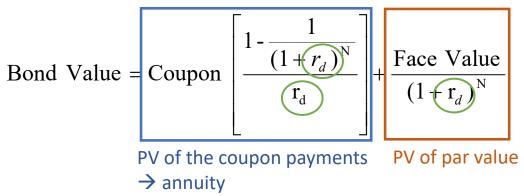
- You will need 2 devices:
 - 1 laptop (for Examplify & soft-copy notes)
 - NO IPAD
 - NO INTERNET DURING EXAM SESSION
 - Another device (e.g., phone/iPad)
 - Connected to internet for Zoom proctoring
- 2 calculators (1 financial & 1 scientific/graphing)
 - NO Excel
- NO other electronic devices
- NO second monitor

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FIN2704/X Week 6

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Bond valuation



The appropriate discount rate (r_d) is the <u>prevailing</u> <u>market interest rate</u>; not when you buy the bond

• At any given point in time, the appropriate $r_{\rm d}$ should be the same across all bonds with the same maturity and credit risk

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Bond valuation (cont.)

Bond Value = Coupon
$$\left[\frac{1 - \frac{1}{(1 + r_d)^N}}{r_d} \right] + \frac{\text{Face Value}}{(1 + r_d)^N}$$

At issuance

 If coupon rate is set to be equal to r_d, then the bond would be issued at par (YTM = r_d)

After issuance

- r_d may change; coupon rate does <u>not</u> change
- Therefore, bond price would change
 - The bond YTM should be equal to the $\underline{\text{prevailing}}\ r_{\text{d}}$
 - YTM does not depend on the market interest rate when the bond was issued

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Yield to maturity (YTM)

Current bond price = Coupon
$$\left[\frac{1 - \frac{1}{(1 + \text{YTM})^N}}{\text{YTM}} \right] + \frac{\text{Face Value}}{(1 + \text{YTM})^N}$$

- The discount rate that will equate the calculated bond PV and the currently observed bond price
- In this module, we typically assume that YTM is the same as the prevailing market interest rate for bonds with the same risk
- YTM is typically quoted as APR, rather than EAR.

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Discount, par, premium bonds

- The price investors pay for a particular bond (discount/par/premium) would be related to:
 - The bond's coupon rate, as well as
 - The prevailing market's interest rate
- · Most bonds are issued at par
 - Coupon rate is set equal to the prevailing market interest rate appropriate for the bond's maturity and risk
- · Bonds are fairly priced
 - When a bond's coupon rate is lower than the appropriate prevailing market interest rate, the bond will be selling at discount
 - When a bond's coupon rate is higher than the appropriate prevailing market interest rate, the bond will be selling at premium

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Zero-coupon bond

No coupon payments

• PV of bond should be lower than the face value

Bond Value =
$$\frac{\text{Face Value}}{(1 + r_d)^{N}}$$

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Additional notes

- Sinking fund
 - Used to reduce credit risk
 - Issuer will accumulate sinking fund when it has excess cash flow
- Current yield
 - Not very useful
- Example on slides 41-42:
 - Coupon rate is set at bond issuance and does NOT change

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Week 2 – turnover ratios

What should be in the denominator of the turnover ratios?

In the exam, unless otherwise stated, to calculate the turnover ratios, please use average figures in the denominators.

Notes on Tutorial

→ 1 solution slides
(slide 15)

Revised to:

In the <u>FIN2704/X midterm and final exam</u>, unless otherwise stated, to calculate the turnover ratios, please use <u>the year-end figures</u> in the denominator

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Week 6 List of topics

Note:

You are responsible for all materials covered in the prerecorded videos posted on LumiNUS, unless they are marked "not examinable". This list only serves to help you in your revisions.

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Week 6 topics

- Bond
 - Debt instrument
 - Finite lifetime
 - Fixed-income investment
- Bond terminologies
 - Par value
 - Coupon & Coupon rate
 - Maturity/maturity date
 - Term
- Sinking fund
- Bond indenture

- Callability & Putability
- Seniority
- Debenture
- Basis points
- Convertibility
- Protective covenants

Week 6 topics (cont.)

Bond valuation

- Bond value = PV of coupons + PV of par
- Yield to Maturity (YTM)
- Par bond
 - Bond that sells at exactly its par value
- Discount bond
- Premium bond
- Zero-coupon bond

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Week 6 topics (Cont.)

- Bond Pricing Theorems
- The effect of time on bond prices
 - Bond prices are pulled to par
- Bond ratings
- Government bonds
- Taxable bonds
- Floating rate bonds (floaters)
- Other types of bonds
- Bond markets
- Term structure of interest rates (yield curve)
- Factors that affect bond yields

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