Ac.F302: Corporate Finance

Week 16 – Workshop: Debt financing

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Main topics of the chapter

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- Corporate Debt
- ~~Other types of debt~~
- Bond Covenants
- Repayment provisions

Exercise 1)

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Explain some of the differences between a public debt offering and a private debt offering.

Public debt offering:

- Prospectus
- Formal contract between the bond issuer and the trust company
- Trust company enforces the contract.

Private Debt offering:

- No need for prospectus or formal contract
- Promisory note

Exercise 2)

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Why do bonds with lower seniority have higher yields than equivalent bonds with higher seniority?

- Requiring coupon payments protects the bondholders from waiting a long time in case the debtor defaults.
- Without coupon payments, default only happens when the bond matures, but by then the corporation might have depleted all of its assets.
- With coupon payments the debtor would be in default the moment it misses one of the coupon payments, and the bondholders can then force the firm into bankruptcy.
- At this stage, they might be able to get a larger fraction of the value of the original debt than if they waited until maturity.

Exercise 3

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- **Explain the difference between a secured corporate bond and an unsecured corporate bond.**

- A secured corporate bond
  - gives the bondholder the right over particular assets that serve as collateral in case of default.

- An unsecured corporate bond does not offer such protection to the bondholder.
  - the bondholders are residual claimants in the case of bankruptcy after the secured assets have been given to the corresponding bondholders.

Exercise 4

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- **What is the difference between a foreign bond and a Eurobond?**

- A foreign bond is a bond issued by a **foreign** company issued in a local market.
- Eurobonds, on the other hand, are bonds **denominated** in a different **currency** than the country in which they are issued.

Exercise 5

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Which of the following statements is FALSE?

A) Global bonds combine the features of domestic, foreign, and Eurobonds, and are offered for sale in several different markets simultaneously.

B) In a leveraged buyout (LBO), a group of private investors purchases all the equity of a public corporation.

C) A term loan is a bank loan that lasts for a specific term.

D) Eurobonds are international bonds that are denominated in the local European currency of the country in which they are issued.

- Answer: D
- Explanation: Eurobonds are international bonds that are not denominated in the local currency of the country in which they are issued.

Exercise 6

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- **Which of the following statements is FALSE?**

  A) In the event of default, the assets not pledged as collateral for outstanding bonds cannot be used to pay off the holders of subordinated debentures until all more senior debt has been paid off.

  B) Because more than one debenture might be outstanding, the bondholder's priority in claiming assets in the event of default, known as the bond's seniority, is important.

  C) When a firm conducts a subsequent debenture issue that has lower priority than its outstanding debt, the new debt is known as a subordinated debenture.

  D) Most debenture issues contain clauses restricting the company from issuing new debt with equal or lower priority than existing debt.

- Answer: D
- Explanation: Most debenture issues contain clauses restricting the company from issuing new debt with equal or higher priority than existing debt.

Types of Public Corporate Debt: secured vs. unsercured

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- Four types of public corporate debt are typically issued: notes, debentures, mortgage bonds, and asset-backed bonds.
- **Notes and debentures** are types of **unsecured debt:**
  - In the event of bankruptcy, unsecured debt gives bondholders a claim to only the assets of the firm that are not already pledged as collateral on other debt.
- **Notes** typically are coupon bonds with maturities shorter than 10 years.
- **Debentures** typically have longer maturities than notes.

Exercise 7

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- **Which of the following statements is FALSE?**

  A) Almost all bonds that are issued today are registered bonds.

  B) The trust company represents the bondholders and makes sure that the terms of the indenture are enforced.

  C) For private placements, the prospectus must include an indenture, a formal contract between the bond issuer and a trust company.

  D) In the case of default, the trust company represents the bondholders' interests.

- Answer: C
- Explanation: For public debt issue, the prospectus must include an indenture, a formal contract between the bond issuer and a trust company.

Exercise 8

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- **Explain why the yield on a convertible bond is lower than the yield on an otherwise identical bond without a conversion feature.**
- The option to convert the bond into stock is valuable, hence its price will be higher and its yield lower.

Exercise 9

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- **Explain why bond issuers might voluntarily choose to put restrictive covenants into a new bond issue.**
- Bond issuers benefit from placing restricting covenants because by doing so they can obtain a lower interest rate.

Exercise 10

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- **Which of the following statements regarding bonds is FALSE?**

  A) If the issuer fails to live up to any covenant, the issuer goes into bankruptcy.

  B) The stronger the covenants in the bond contract, the less likely the issuer will default on the bond, and so the lower the interest rate investors will require to buy the bond.

  C) Covenants are restrictive clauses in a bond contract that limit the issuer from taking actions that may undercut its ability to repay the bonds.

  D) Bond agreements often contain covenants that restrict the ability of management to pay dividends.

- Answer: A
- Explanation: If the issuer fails to live up to any covenant, the issuer goes into default.

Exercise 11

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- **Which of the following statements regarding bonds is FALSE?**

  A) By including more covenants, issuers increase their costs of borrowing.

  B) Once bonds are issued, equity holders have an incentive to increase dividends at the expense of debt holders.

  C) Covenants may restrict the level of further indebtedness and specify that the issuer must maintain a minimum amount of working capital.

  D) If the covenants are designed to reduce agency costs by restricting management's ability to take negative NPV actions that exploit debt holders, then the reduction in the firm's borrowing cost can more than outweigh the cost of the loss of flexibility associated with covenants.

- Answer: A
- Explanation: By including more covenants, issuers decrease their costs of borrowing.

Exercise 12

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- **Which of the following statements regarding callable bonds is FALSE?**

  A) The holder of a callable bond faces reinvestment risk precisely when it hurts: when market rates are lower than the coupon rate she is currently receiving.

  B) When yields have risen, the issuer will not choose to exercise the call on the callable bond.

  C) The issuer will exercise the call option only when the prevailing market rate exceeds the coupon rate of the bond.

  D) A callable bond is relatively less attractive to the bondholder than the identical non-callable bond.

- Answer: C
- Explanation: The issuer will exercise the call option only when the prevailing market rate is below the coupon rate of the bond.

Exercise 13

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- **Which of the following statements regarding the yield calculation of a callable bond is FALSE?**

  A) The assumption that underlies the yield calculation of a callable bond—that it will not be called—is not always realistic, so bond traders often quote the yield to call.

  B) The yield to call (YTC) is the annual yield of a callable bond assuming that the bond is called at the earliest opportunity.

  C) We can think of the yield to maturity of a callable bond as the interest rate the bondholder receives if the bond is not called and repaid in full.

  D) Because the price of a callable bond is higher than the price of an otherwise identical non-callable bond, the yield to maturity of a callable bond will be lower than the yield to maturity for its non-callable counterpart.

- Answer: D
- Explanation: Because the price of a callable bond is lower than the price of an otherwise identical non-callable bond, the yield to maturity of a callable bond will be higher than the yield to maturity for its non-callable counterpart.

Exercise 14

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- **Which of the following statements regarding convertible bonds is FALSE?**

  A) A convertible bond can be thought of as a regular bond plus a special type of call option called a warrant.

  B) On the maturity date of the bond, the strike price of the embedded warrant in a convertible bond is equal to the face value of the bond divided by the conversion ratio—that is, the conversion price.

  C) Calling a convertible bond transfers the remaining time value of the conversion option from shareholders to bondholders.

  D) If the stock price is low so that the embedded warrant is deep out-of-the-money, the conversion provision is not worth much and the bond's value is close to the value of a straight bond—an otherwise identical bond without the conversion provision.

- Answer: C
- Explanation: Calling a convertible bond transfers the remaining time value of the conversion option from bondholders to shareholders.

Exercise 15

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- **You own a bond with a face value of $10,000 and a conversion ratio of 363. What is the conversion price?**
- The conversion price is the face value of the bond divided by the conversion ratio. In this case:

$$P = \frac{\text{Face value}}{\text{Conversion ratio}} = \frac{\$10{,}000}{363}$$

$$P = \$27.55$$

Exercise 16

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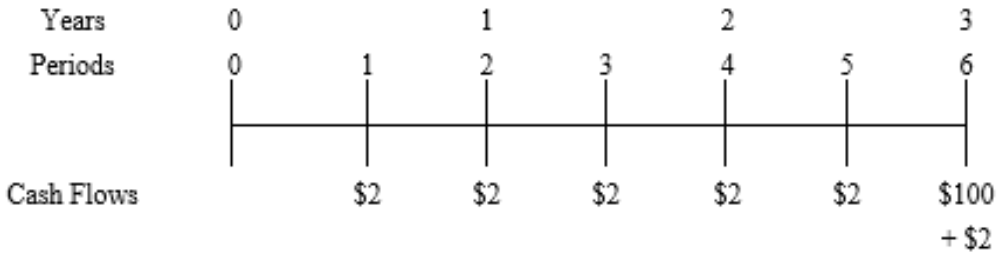
- **Bancroft Corporation has just issued a callable (at par) three-year, 4% coupon bond with semiannual coupon payments. The bond can be called at par in two years or anytime thereafter on a coupon payment date. It has a price of $97. What is the bond's yield to maturity and yield to call?**
- Timeline YTM:



The present value formula to be solved is:

$$\$97 = \frac{\$2}{YTM/2}\left(1 - \frac{1}{\left(1 + \frac{YTM}{2}\right)^6}\right) + \frac{\$100}{\left(1 + \frac{YTM}{2}\right)^6}$$

- Use financial calculator to calculate YTM. The YTM is 2.55 x 2 = 5.1%
- Or using Excel: =RATE(6, 2, -97, 100)

Exercise 16

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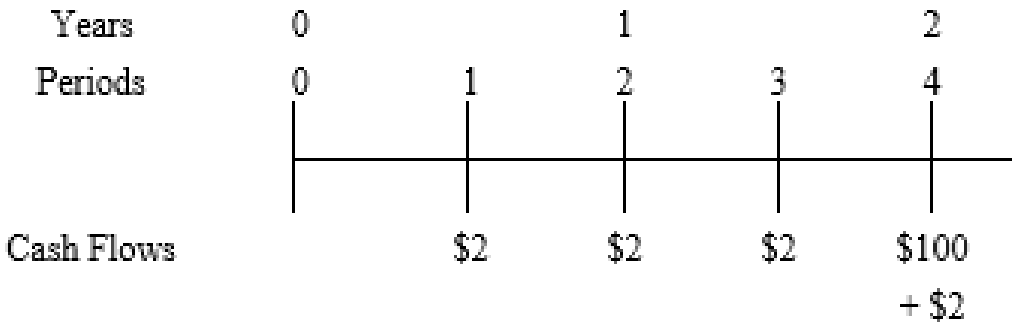
- YTC: remember the bond can be called at par in **two years** or anytime thereafter on a coupon payment date.
- Timeline:



$$\$97 = \frac{\$2}{YTC/2}\left(1 - \frac{1}{\left(1 + \frac{YTC}{2}\right)^4}\right) + \frac{\$100}{\left(1 + \frac{YTC}{2}\right)^4}$$

Use financial calculator to calculate YTC. The YTC is 2.80 x 2 = 5.6%

Or using Excel: =RATE(4, 2, -97, 100)