Chapter 12

Preferred Stocks and Convertibles

- Preferred Stocks
- Valuing and Investing in Preferreds
- Convertibles
- Valuing and Investing in Convertibles

Preferred Stocks - 1

Preferred stocks have preference over common stocks in dividend payments and firm liquidation. It has both stock-like and bond-like features:

- **Stock-like features:**
  - Dividends are not tax deductible to issuers
  - No specific maturity
  - Failure to pay dividends does not constitute bankruptcy

- **Bond-like features:**
  - Promises to pay fixed dividends (usually comes with a coupon rate, similar to coupon bonds).
  - Generally no voting rights
  - Usually carry a stated liquidation value, similar to bond’s face value
  - Price is sensitive to interest rate change
  - In times of liquidation, preferred stock-holders get paid before common stock-holders, and after the bond-holders.

- **Other features:**
  - Most of the preferred dividends are cumulative
  - “Dividends Received Deduction” (DRD): Companies owning preferred stocks can deduct 70% of the preferred dividend from their taxable income.
  - As a result, dividend yields are often at or below yields on bonds of similar risk
Preferred Stocks - 2

Dividend yield and pretax equivalent yield

Example:
Firm A holds preferred stock with a dividend yield of 7%, as well as 9% coupon bond with similar risk from the same company. The firm’s marginal tax rate is 35%. Assuming the DRD is 70%:
1. What is the after-tax yield of the preferred stock and the bond?
2. How will your answer to Q1 change if DRD becomes 50%?

Answer:

1. When DRD is 70%:
   
   After-tax yield of preferred = 7% - 7%*(1-70%)*35% = 6.265%

   After-tax yield of corp. bond = 9% (1-35%) = 5.85%

2. If DRD becomes 50%, then:
   
   After-tax yield of preferred = 7% - 7%*(1-50%)*35% = 5.775%

   After-tax yield of corp. bond is still at 5.85%.

Preferred Stocks - 3

Why hold preferred stocks?
Why do investors hold preferred stocks, given that its yield is lower than that of the bond, and that it is also subordinate to bonds?

Answer: The tax advantage of DRD to corporations.

Special types of preferred stocks:

- Adjustable-Rate Preferred Stock (“ARPS”)
  - Dividend rate = reference rate + spread
  - Market value of ARPS is stable
  - Usually an upper and lower bound is placed on dividend rate (“collar”)

- Convertible preferred stocks: can be converted into certain number of shares of common stock
  - An option granted to the preferred stock holder

- Callable preferred stocks: can be called before the maturity date at a pre-specified price at the option of the issuer.
  - An option granted to the issuer.

Question:
In general, when will the preferred stocks be called?
Valuing Preferred Stocks

- Risk exposures of preferred stocks
  - Business risk
  - Interest rate risk

Pricing Preferred Stock

Price of a preferred stock = \(\frac{\text{Annual Dividend Income}}{\text{Prevailing Market Yield}}\)

- Dividend Yield: a measure of the amount of return earned on annual dividends.

Dividend Yield = \(\frac{\text{Annual Dividend Income}}{\text{Market price of preferred stock}}\)

**Example**

A preferred stock has a coupon rate of 8% and par value of $25. Currently it is trading at a price of $27.50 per share. Calculate the dividend yield.

Annual dividend income = 25 * 8% = $2

Dividend yield = $2 / $27.50 = 7.27%

Convertibles - 1

*Convertibles* are fixed income obligations that can be converted into a specified number of shares of the issuing company’s common stock.

- Two major types of convertibles are:
  - Convertible bonds (most common type)
  - Convertible preferreds

We will focus our attention on convertible bonds.

**Features of convertible bonds:**
- Because of the option to convert to common stocks, convertible bonds usually carry lower coupon rates than a comparable straight bond.
- Callable convertibles: most convertible bonds are also callable.

**Forced conversion**
- Issuing firms can force conversion by calling back the bond at pre-specified price.
- When convertibles are called, bondholders have two options: to convert to common stocks or to redeem the bond for cash at the call price.
- Most of the time it’s more beneficial for bondholders to convert rather than to redeem for face value.
**Convertibles - 2**

*Conversion privilege*: the conditions and specific nature of the conversion feature on convertible securities

This includes:

- **Conversion period**: the time period during which the convertibles can be converted.
- **Conversion price**: the stated price per share at which stock can be purchased through conversion.
- **Conversion ratio**: the number of common shares into which the bond can be converted.
- **Conversion value**: the value of the convertible if it is converted to stock at the current stock price.

Conversion value = conversion ratio * current stock price

- **Conversion premium**: the difference between the price of the convertible and its conversion value.

Conversion premium (in $) = bond price – conversion value

\[
\text{conversion premium (in %)} = \frac{\text{conversion premium (in $)}}{\text{conversion value}}
\]

**Convertibles - 3**

We’ll use an example to illustrate these terms.

**Example**: A 10-year convertible bond with a par value of $1000 has a conversion ratio of 20. Its market price is $1050. Currently the common stock of the same company is trading at $42 per share.

1. What is the conversion price?
2. Calculate the conversion value and conversion premium of this bond.

**Answer**:

1. Conversion price = 1000/20 = $50.
2. conversion value = $42 * 20 = $840
   
   conversion premium (in $) = $1050 - $840 = $210
   
   conversion premium (in %) = $210/$840 = 25%.

Investors are willing to pay a premium primarily because of the added current income a convertible provides relative to the underlying common stock.
To assess conversion premium, investors can calculate the length of time it takes for them to recover the conversion premium from the coupon interest income earned. This is called a convertible’s **Payback Period**.

**Payback period**: the length of time it takes for the buyer of a convertible to recover the conversion premium from the extra current income earned on the convertible.

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\text{Payback Period} = \frac{\text{Conversion premium (in $)}}{\text{Annual coupon interest} - \text{Annual common dividend}}
\]

**In the previous example**: if the coupon rate on the convertible is 5%, and the annual common dividend per share is $0.40, what is the payback period?

Annual coupon interest = 5% * $1000 = $50

Annual common dividend = $0.40 * 20 = $8

Payback period = $210 / ($50 - $8) = 5 years.

The **price floor** of a convertible is defined by its bond properties and is the focus of the investment value measure.

**Investment value**: the price at which the bond would trade if it were nonconvertible and were priced near the prevailing market yields of comparable straight bonds.

**In the previous example**: if the yield to maturity on comparable nonconvertible is 9%, what is the investment value of this convertible? (Assuming annual coupon payment)

Using financial calculator:

PMT: $50
N: 10
FV: $1,000
Int: 9%

We can find PV: PV = $743.29.

Therefore, investment value of this convertible is $743.29.
Homework and Readings

- Readings: Chapter 12

- Exercises: Chapter 12 (will NOT be collected)
  - Text Website: Self-assessment quiz
  - End-of-Chapter CFA questions
  - Problems: P12.11 part b-c, e-h; 12.13

- Homework (will be collected and graded, due date to be announced)
  - Case Problem 12.2 (page 535).