Chapter 8

Stock Valuation

Chapter Outline

- Some Features of Common and Preferred Stocks
- Common Stock Valuation
 - Understand how stock prices depend on future dividends and dividend growth
 - Be able to compute stock prices using the dividend growth model

Common Stock

- The true ownership of business firms are the common stockholders
- Residual owners because they receive what is left after all other claims on the firms income and assets are satisfied.
- Stocks that has no special preference in paying dividend.

Preferred stock

- P/s have dividend priority over c/s
- Promise a fixed periodic payment (stated either as % or as a dollar amount)
- Are often issued by firms that are experiencing losses and need additional financing.

Features of Common Stock

- Voting Rights generally each share of c/s entitles its holder to one vote in the election of directors.
- Proxy voting is the grant of authority to s.o else to vote the shareholder's share.
- Classes of stock the classes are created by unequal voting rights. Eg. Ford Motor Comp. class B c/s is not publicly traded, and has about 40% of voting power.
- Shareholders have the right to share proportionally in declared dividends

Dividend Characteristics

Dividends are not a liability of the firm until a dividend has been declared by the Board

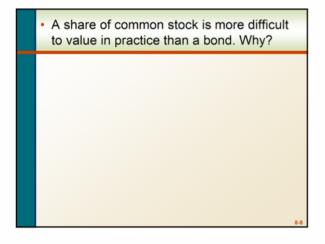
- Consequently, a firm cannot go bankrupt for not declaring dividends
- Dividends and Taxes
 - Dividend payments are not considered a business expense; therefore, they are not tax deductible (Dividends are paid out of the corp.'s aftertax profit)
 - Dividend received by individual shareholders are considered as ordinary income and are fully taxable.

Features of Preferred Stock

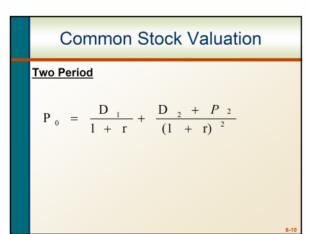
- Dividends
 - Stated dividend that must be paid before dividends can be paid to common stockholders
 - Dividends are not a liability of the firm and preferred dividends can be deferred indefinitely
 - Most preferred dividends are cumulative any missed preferred dividends have to be paid before common dividends can be paid
 - Preferred stock generally does not carry voting rights

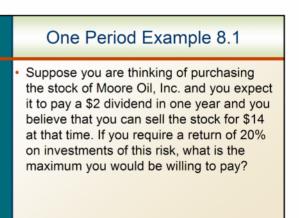
Cash Flows for Stockholders

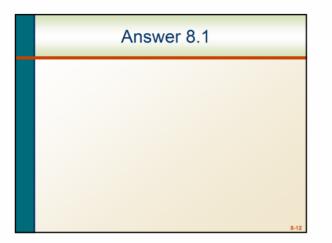
- If you buy a share of stock, you can receive cash in two ways
 - The company pays dividends
 - You sell your shares, either to another investor in the market or back to the company
- As with bonds, the price of the stock is the present value of these expected cash flows



Common Stock Valuation <u>One Period</u> $P_0 = \frac{D_1 + P_1}{1 + r}$ P: Current Price of the Stock D : Cash dividend paid at the end of period r : Required return in the market on this invest.

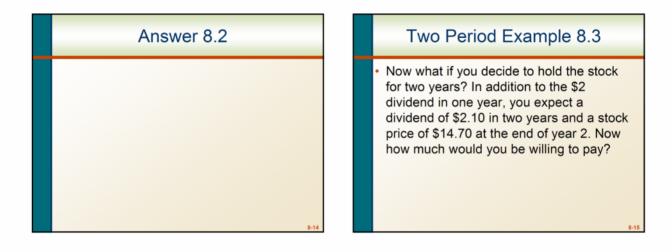


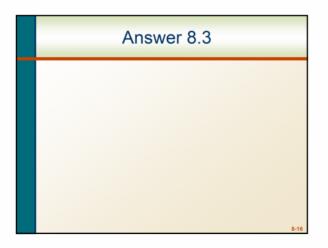




One Period Example 8.2

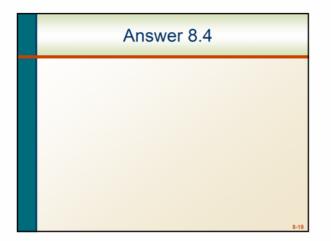
You are considering buying a share of stock today and plan to sell it next year. You somehow know that the stock will be worth \$70 at that time. You predict that the stock will also pay a \$10 per share dividend at the end of the year. If you require 25% of return on investment, what is the most you would pay for stock?





Three Period Example 8.4

Finally, what if you decide to hold the stock for three years? In addition to the dividends at the end of years 1 and 2, you expect to receive a dividend of \$2.205 at the end of year 3 and the stock price is expected to be \$15.435. Now how much would you be willing to pay?



Developing The Model

- You could continue to push back when you would sell the stock
- You would find that the price of the stock is really just the *present value of <u>all</u> expected future dividends*
- So, how can we estimate all future dividend payments?

Estimating Dividends: Special Cases

- Constant dividend
- The firm will pay a constant dividend forever
- This is like preferred stock
- The price is computed using the perpetuity formula
- Constant dividend growth
- The firm will increase the dividend by a constant % every period
- Supernormal growth
- Dividend growth is not consistent initially, but settles down to constant growth eventually

Constant Dividend

Zero Growth

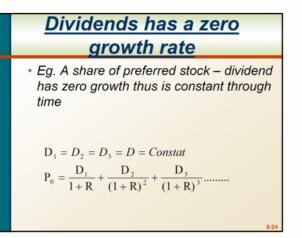
If dividends are expected at regular intervals forever, then this is a perpetuity and the present value of expected future dividends can be found using the perpetuity formula

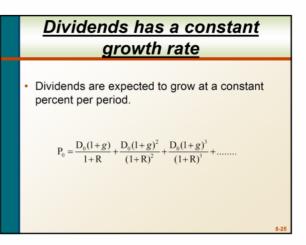
$P_0 = \frac{D}{r}$

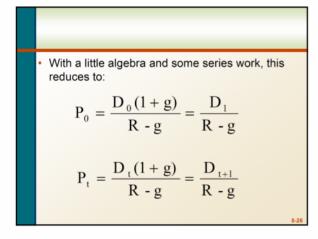
Example 8.5

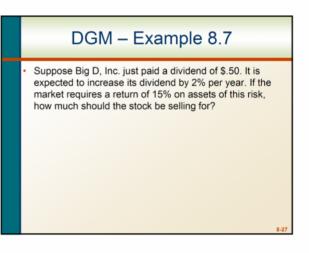
 Suppose stock is expected to pay a \$0.50 dividend every quarter and the required return is 10% with quarterly compounding. What is the price?

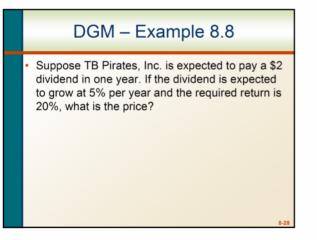
Example 8.6 Suppose that company has a policy of paying \$10 per share dividend every year. If this policy is to be continued infinitely and the required return is 20%, what is the present value of the stock?

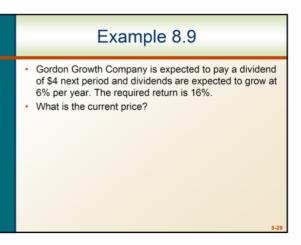






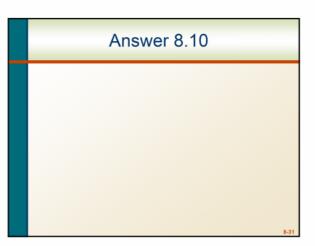


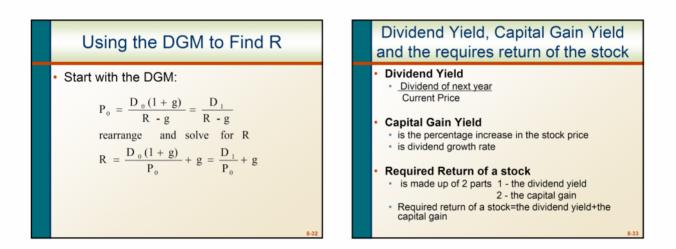




Nonconstant Growth Problem Statement – Example 8.10

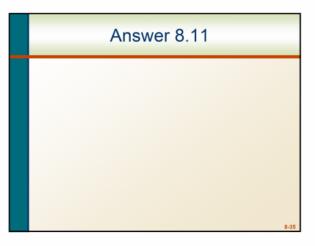
- Suppose a firm is expected to increase dividends by 20% in one year and by 15% in two years. After that dividends will increase at a rate of 5% per year indefinitely. If the last dividend was \$1 and the required return is 20%, what is the price of the stock?
- Remember that we have to find the PV of <u>all</u> expected future dividends.





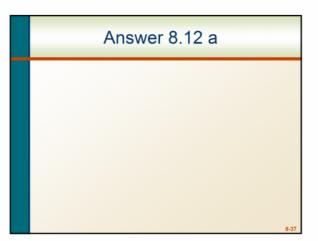
Finding the Required Return – Example 8.11

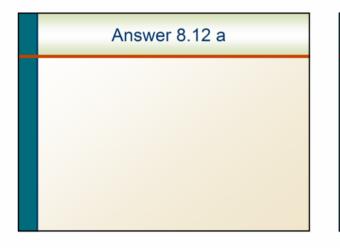
- Suppose a firm's stock is selling for \$10.50. They just paid a \$1 dividend and dividends are expected to grow at 5% per year.
- What is the required return?
- What is the dividend yield?
- What is the capital gains yield?



Dividend Growth and Stock Valuation: Example 8.12 a

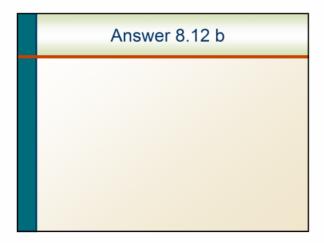
 a) The Brigapenski Co. has just paid a cash dividend of \$2 per share. Investors require a 16% return from investment such as this. If the dividend is expected to grow at a steady 8% per year, what is the current value of the stock? What will the stock be worth in five years?





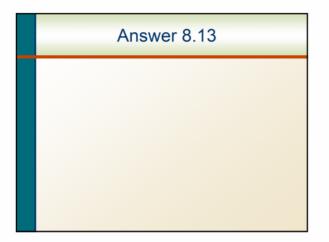
Dividend Growth and Stock Valuation: Continued...

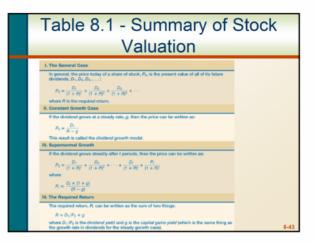
 b) What would the stock sell for today if the dividend was expected to growth at 20% per year for the next 3 years and settle down to 8% per year, indefinitely?



Example 8.13

Suppose we observe a stock sellind for \$40 per share. The next dividend will be \$1 per share, and you think the dividend will growth at 12 % per year forever. What is the dividend yield in this case? The capital gain yield? The total required return?





Sugested Problems
• 1-5, 7-9, 11-13, 15-17, 19, 21.