Chapter 9 Stocks and Their Valuation

COMMON STOCK VALUATION

1. Generally, the value of an asset is the present value of the benefits expected from the asset; what are the benefits expected from stock ownership?

$$P_0 = D_1 (1+r_s)^{-1} + D_2 (1+r_2)^{-2} + D_3 (1+r_s)^{-3} + \dots = \sum_{t=1}^{\infty} D_t (1+r_s)^{-t}$$

SOME SPECIAL CASES

1. Zero growth in dividends (for example, *preferred stock*) $D_1 = D_2 = D_3 = \dots$ $\hat{P}_0 = D(1+r_s)^{-1} + D(1+r_s)^{-2} + D(1+r_s)^{-3} + \dots$ $\hat{P}_0 = \frac{D}{r}$

Calculate the value of a preferred stock issue that pays an annual dividend of \$5 and has a required rate of return of 10%.

2. Constant growth

$$\hat{P}_0 = D_1 (1+r_s)^{-1} + D_2 (1+r_s)^{-2} + D_3 (1+r_s)^{-3} + \dots$$
$$\hat{P}_0 = \frac{D_1}{r_s - g}$$

Assume that the last dividend was \$0.25, the company is growing at a constant rate of 6%, and that investors require 12% to invest in this company. What it the current price of a share of this stock?

What should the stock's expected value be 1 year from now?

What if the company's earnings and dividends are expected to decline by a constant 6% per year. Would anyone be willing to buy this stock? At what price?

COMPONENTS OF THE REQUIRED RETURN

Stockholders' return consists of dividend yield and capital gains yield.

1. For a constant growth stock, total return, R, can be written as

$$\hat{r}_s = \frac{D_1}{P_0} + g$$

Refer to the constant growth stock above. What is the expected dividend yield, the capital gains yield, and total return for the first year?

NONCONSTANT GROWTH STOCK

$$\hat{P}_0 = D_1 (1+r_s)^{-1} + D_2 (1+r_s)^{-2} + D_3 (1+r_s)^{-3} + \dots$$

$$P_0 = D_1 (1+r_s)^{-1} + D_2 (1+r_s)^{-2} + \dots + D_L (1+r_s)^{-L} + P_L (1+r_s)^{-L}$$

Where L is the period of the Last nonconstant growth dividend.

A generic constant growth pricing formula: $\hat{P}_N = \frac{D_{N+1}}{r_s - g}$

Assume the last dividend paid was \$0.25 and investors require 12% to invest in this company's stock. The company expects to experience dividend growth of 30% for the next 3 years, then to fall to a long-run constant growth rate of 6 percent. What would the stock's value be under these conditions?

Assume that the company is expected to experience zero growth during the next 3 years and then achieve a constant growth rate of 6 percent in the fourth year and thereafter. What would be the stock's value now?

SOME FEATURES OF COMMON AND PREFERRED STOCKS

- 1. Common stock features
 - a. shareholder rights
 - b. voting rights....cumulative voting versus straight voting, proxy voting
 - c. classes of stock
 - d. preemptive right
 - e. dividends
- 2. Preferred stock features
 - a. constant dividends
 - b. dividend priority over common
 - c. cumulative dividends
 - d. par or stated value

VALUING THE ENTIRE CORPORATION

The value of a corporation (or division of a corporation) can be found by obtaining the present value of the firm's (or division's) free cash flows, here the discount rate is WACC, the cost of capital for the firm.

 $FCF = [EBIT(1-T) + Depreciation] - [Capital \exp enditures + \Delta Net working capital]$ $V_{Company} = FCF_1(1 + WACC)^{-1} + FCF_2(1 + WACC)^{-2} + FCF_3(1 + WACC)^{-3} + \dots$ $V_{Companyat \neq N} = \frac{FCF_{N+1}}{WACC - g}$