

Basic Problems

(For the first 20 bond problems, assume interest payments are on an annual basis.)

1. The Lone Star Company has \$1,000 par value bonds outstanding at 10 percent interest. The bonds will mature in 20 years. Compute the current price of the bonds if the present yield to maturity is:

- a. 6 percent.
- b. 9 percent.
- c. 13 percent.

Bond value
(LO10-3)

will the price of the preferred stock be affected?

25. X-Tech Company issued preferred stock many years ago. It carries a fixed dividend of \$12.00 per share. With the passage of time, yields have soared from the original 10 percent to 17 percent (yield is the same as required rate of return). Preferred stock value (LO10-4)
- a. What was the original issue price?
 - b. What is the current value of this preferred stock?
 - c. If the yield on the Standard & Poor's Preferred Stock Index declines, how will the price of the preferred stock be affected?

34. Trump Office Supplies paid a \$3 dividend last year. The dividend is expected to grow at a constant rate of 7 percent over the next four years. The required rate of return is 14 percent (this will also serve as the discount rate in this problem). Round all values to three places to the right of the decimal point where appropriate.
- a.* Compute the anticipated value of the dividends for the next four years. That is, compute D_1 , D_2 , D_3 , and D_4 —for example, D_1 is \$3.21 ($\3.00×1.07).

- b. Discount each of these dividends back to present at a discount rate of 14 percent and then sum them.
- c. Compute the price of the stock at the end of the fourth year (P_4).

$$P_4 = \frac{D_5}{K_e - g}$$

(D_5 is equal to D_4 times 1.07)

- d. After you have computed P_4 , discount it back to the present at a discount rate of 14 percent for four years.
- e. Add together the answers in part *b* and part *d* to get P_0 , the current value of the stock. This answer represents the present value of the four periods of dividends, plus the present value of the price of the stock after four periods (which, in turn, represents the value of all future dividends).
- f. Use Formula 10-8 to show that it will provide approximately the same answer as part *e*.

$$P_0 = \frac{D_1}{K_e - g}$$

For Formula 10-8, use $D_1 = \$3.21$, $K_e = 14$ percent, and $g = 7$ percent. (The slight difference between the answers to part *e* and part *f* is due to rounding.)

- g. If current EPS were equal to \$5.32 and the P/E ratio is 1.1 times higher than the industry average of 8, what would the stock price be?
- h. By what dollar amount is the stock price in part *g* different from the stock price in part *f*?
- i. In regard to the stock price in part *f*, indicate which direction it would move if (1) D_1 increases, (2) K_e increases, and (3) g increases.