Equities

Question 1

XYZ Corporation is planning to issue 5 million shares of preferred stock. These shares will pay a perpetual dividend of \$5.00 per share. The current risk-free rate of interest is 3.33% and XYZ is able to issue new bonds at a 10% yield-to-maturity. XYZ is a high-quality company and preferred stocks of similar quality companies are yielding 5%. The per share value of XYZ Corporation's preferred stock is:

a. \$5.00
b. \$50.00
c. \$100.00
d. \$150.00
Choice "c" is correct.

 $P = \frac{\text{Div}_1}{r_p} = \frac{\$5.00}{5\%} = \$100.00$

Choice "a" is incorrect. This is the perpetual dividend, not the value of the preferred shares.

Choice "b" is incorrect. This is the result if the Company's 10% debt rate is used in the denominator, but the denominator should be the yield on similar quality preferred stocks.

Choice "d" is incorrect. This is the result if the risk-free rate of interest is used in the denominator, but the denomination should be the yield on similar quality preferred stocks.

Question 2

Dunlap Corporation is expected to earn \$2.00, \$2.20, and \$2.40 per share in each of the next three years. At the end of the third year, the stock is expected to sell at a current yield of 3%. It is Dunlap's policy of employing a dividend payout ratio of 25%. If an investor demands a 15% return for investing in Dunlap stock, how much should the investor be willing to pay for the shares today?

a. \$12.68 b. \$14.40 c. \$16.67 d. \$57.58 Choice "b" is correct. Current yield = $\frac{Dividend}{Stock \ Price}$ Stock price at year $3 = \frac{Dividend}{Currentyield} = \frac{25\% \times \$2.40}{3\%} = \$20$ $P_{CS} = \frac{0.25 \times \$2.00}{1.15} + \frac{0.25 \times \$2.20}{(1.15)^2} + \frac{0.25 \times \$2.40}{(1.15)^3} + \frac{\$20.00}{(1.15)^3} = \$14.40$

Choice "a" is incorrect. This is the price if the stock value at year three is incorrectly discounted for four periods, not three.

Choice "c' is incorrect. This is the next year's projected dividend ($25\% \times \$2.00 = \0.50) divided by the year three 3% current yield.

Choice "d" is incorrect. This is the price that results if earnings, not dividends, are used in calculating the price.

Question 3

An analyst is considering acquiring a common stock that will be held for one year. The analyst expects to receive \$1.50 in dividends and \$26.00 from the sale of stock at the end of the year. Using a dividend discount model, the maximum price the analyst should pay for the stock today if the required return is 15% is *closest* to:

a. \$23.91 b. \$22.61 c. \$25.22 d. 27.50 Choice "a" is correct. $P_{cs} = \frac{Div_1 + P_1}{1 + r} + \frac{\$1.50 + \$26.00}{1.15} = \23.91

Choice "b" is incorrect. This is the value excluding the dividends, but the dividends should be included.

Choice "c" is incorrect. This is the result if the dividends are incorrectly double counted. Choice "d" is incorrect. This is the cash flows, but they should be discounted by the 15% required return.

Question 4

Suggs Corporation currently pays a \$1.00 dividend. This dividend is expected to grow at a 5% rate for the next two years and the shares are expected to trade at a 2% yield at the end of this two-year period. If an investor requires a 10% return on Suggs' shares, how much should he or she be willing to pay for the stock?

a. \$47.32

b. \$45.17

c. \$55.00

d. \$52.50

Choice "a" is correct.

First, calculate the next two year's dividends:

$$Div_1 = Div_0(1 + gDiv) = $1.00(1.05) = $1.05$$

$$Div_2 = Div_1(1 + gDiv) = $1.05(1.05) = $1.10$$

Next, calculate the terminal value:

$$P_{CS_2} = \frac{Div_2}{CY_2} = \frac{\$1.10}{2\%} = \$55.00$$

Finally, calculate the price today:

$$P_{CS_2} = \frac{Div_1}{(1+r_{CE})} + \frac{Div_2 + P_{CS_2}}{(1+r_{CE})^2} = \frac{\$1.05}{1.10} + \frac{\$1.10 + \$55.00}{(1.10)^2} = \$47.32$$

Choice "b" is incorrect. This is the value of all calculations are based on 1.00 being used as dividend₁ instead of the correct 1.05.

Choice 'c" is incorrect. This is the value of the stock in two years.

Choice "d" is incorrect. This is the expected year one dividend divided by the year two yield of 2%.

Question 5

Stevens Inc.'s dividend is assumed to grow at the same rate of 4% forever. The dividend is currently \$2.00 per share. The risk-free rate is currently 2%, the 10-year treasury is 6%, and the investor's required return is 9%. What is the value of Stevens Inc.'s common stock?

a. \$33.33

b. \$40.00

c. \$41.60

d. 52.00

Choice "c' is correct. The current dividend of \$2.00 will grow to \$2.08 next year, using the 4% growth rate. Thus the numerator is \$2.08. The denominator is the investor's required return minus the growth rate.

$$P_{CS_2} = \frac{Div_1}{r_{Ce} - g} = \frac{\$2.00(1.04)}{.09 - .04} = \$41.60$$

Choice "a" is incorrect. This is the result if the current dividend is divided by the 10-year Treasury rate.

Choice "b" is incorrect. This is the result if the current dividend is divided by the required rate of return less the growth rate.

Choice "d" is incorrect. This is the result if r_{CE} is calculated by adding the risk-free rate to the 10-year Treasury rate. The correct dividend and growth rate are used.

Question 6 - Excel Application

DCF Valuation Model Information for first five years Payout ratio: 58.44% (average last 5 years) ROE = 16% EPS (year zero) = \$1.54 Dividend per share (year zero) = \$0.90 Risk Free rate (Long term bond rate in USD) = 4.95% Company's Beta = 0.95 US Market Risk Premium = 4.00% Country Risk = 0% Information Terminal Value Company's Beta = 1.00 Expected growth = 4.00% Calculate the intrinsic value of the stock today?

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Question 7

Barcelona Plc. currently pays a £1.00 dividend. This dividend is expected to grow at a 2% rate for the next two years and the shares are expected to trade at a 4% yield at the end of this two-year period. If an investor requires an 11% return on Barcelona's shares, how much should he or she be willing to pay for the stock?

First, calculate the next two year's dividends:

 $Div_1 = Div_0(1 + gDiv) = \pounds 1.00(1.02) = \pounds 1.02$ $Div_2 = Div_0(1 + gDiv) = \pounds 1.02(1.02) = \pounds 1.0404$

Next, calculate the terminal value:

$$P_{CS_2} = \frac{Div_2}{CY_2} = \frac{1.0404}{4\%} = \pounds 26.01$$

Finally, calculate the price today:

$$P_{CS_0} = \frac{Div_1}{(1+r_{CE})} + \frac{Div_2}{(1+r_{CE})^2} = \frac{1.02}{1.11} + \frac{1.0404 + 26.01}{(1.11)^2} = \pounds 22.874$$

Question 8

Madrid Inc.'s dividend is assumed to grow at the same rate of 2.5% forever. The dividend is currently £1.40 per share. The risk-free rate is currently 2.5%, the 10-year treasury is 3%, and the investor's required return is 7%. What is the value of Madrid's Inc.'s common stock?

The current dividend of £1.40 will grow to £1.435 next year, using the 2.5% growth rate. Thus the numerator is £1.435. The denominator is the investor's required return minus the growth rate.

$$P_{CS_2} = \frac{Div_1}{r_{CE} - g} = \frac{1.435}{(0.09 - 0.04)} = \pounds 28.7$$

Question 9

In valuing the stock of Evergreen Enterprises, an analyst compiles the following information about the firm

- Expected constant growth rate of dividends: 6%
- Next year's expected earnings per share: £4.24
- Expected retention ration: 62.5%
- Required rate of return: 11%

What is the value of the firm's stock today?

$$P = \frac{4.24 \times (1 - 0.625)}{0.11 - 0.06} = \pounds 31.8$$