

## Tutorial - Valuation

### Question 1

Discuss why required rate for equity (cost-of-equity,  $k_e$ ) is generally expected to be greater than required rate for debt (the cost-of-debt,  $k_d$ ) and why  $k_e$  and  $k_d$  vary among securities.

### Question 2

Price a bond that has face value of \$100.00, pays an annual coupon of 8.00%, yields 8.00% p.a. and matures in

- 5 years
- 10 years
- 5 years and 10 years, but with a 9.00% p.a. yield
- Given your earlier answers, which bond (the 5-year or 10-year) is more sensitive to changes in yield?

### Question 3

From the following information, answer the questions below. A bond has a face value of \$100.00, annual coupon of 10.00%, three years to maturity and a yield of 12.00% p.a.

- Why will this Bond sell at a discount?
- What are the cash flows for each year?
- What is the price of the Bond?
- What is the price of the Bond if the required rate of return drops to 10.00% p.a.?

### Question 4

A bond has a face value of \$100.00, a 10.00% annual coupon and 5 years to maturity.

- When will the bond sell for a discount?
- When will it sell for par-value?
- When will it sell for a premium?
- To confirm your answers to a), b) and c), value the bond with yields of 9.00% p.a., 10.00% p.a. and 11.00% p.a.

### Question 5

- A bond with a face value \$1,000 has a coupon rate of 8% and the market rate of 10%. What is the bond's price?
- A 6-year ABC bond (face value of \$1000) pays interest of \$80 annually and sells for \$950. What are its coupon rate and yield to maturity? If ABC wants to issue a new 6-year bond at the same face value and price, what will the new coupon rate be?
- SH Corp. has issued 9% annual coupon bonds with a face value of 1000 USD that are now selling at a yield to maturity of 10%. What is the price of these bonds?

### Question 6

A bond with a face value \$1,000 has a coupon rate of 8% and the market rate of 10%. What is the bond's price? A 30-year Treasury bond is issued with face value of \$1000, paying interest of \$60 per year. If market yields increase shortly after the T-bond is issued, what happens to the bond's

- coupon rate?
- price?
- yield to maturity?

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### Question 7

Fill in the table below for the following zero-coupon bonds. The face value of each bond is \$1,000.

Price	Maturity (years)	Yield to maturity
\$300	30	-
\$360	-	8%
-	10	10%

### Question 8

A bond has 10 years until maturity, a coupon rate of 8%, and sells for \$1100.

- What is the current yield on the bond?
- What is the yield to maturity?
- If after one year from now the bond has a yield to maturity of 8%, what will its price be? What will be the rate of return on the bond?

### Question 9

Calculate the market price of an 8% -coupon bond with a face value of \$1,000, 3 years to maturity, given the yield to maturity expected by investors is:

- 5%
- 8%
- 10%
- When the yield to maturity is lower than coupon rate, bonds sell at a price lower or higher than par value?

### Question 10

If each of two stocks are currently paying \$1.00 dividend per share but the earnings of stock B are expected to grow at twice the 4.00% p.a. rate anticipated for stock A, and if investors require a return of 10.00% p.a. on each stock, stock B would currently sell for twice the price of stock A. True or False? Explain.

### Question 11

Catty Company has just paid a dividend of \$0.50. Dividends are expected to grow by 5.00% for the next 4 years, and then they are expected to grow by 3.00% indefinitely. If the required rate of return on Catty's shares is 10.00%, what is the current price of the shares?

### Question 12

Spec Company is expected to pay dividends of \$0.20, \$0.30 and \$0.40, in years 3, 4 and 5, respectively. After the dividend in year 5, all dividends are expected to grow by 4.00% per year indefinitely. Calculate the current price of a Spec Company share if the required rate of return on the share is 13.00%.

### Question 13

Babby Company has just paid a \$0.90 dividend and dividends are expected to grow at a rate of 5.00% per annum indefinitely. Calculate the current price of the share if the required rate of return on these shares is 12.00%.

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### **Multiple choice questions**

#### **Question 14**

A 10.00% coupon bond has annual coupon payments, three years to maturity and yields 8.00%. What price will the bond trade at?

- a. \$ 95.026
- b. \$100.000
- c. \$105.154
- d. \$113.420
- e. Cannot be determined

#### **Question 15**

A bond with face value of \$100.00 and coupon of 8.00% per annum is priced at \$100.00. The current annual required rate of return on the bond is 8.00%. What is the maturity of the bond?

- a. 1 year
- b. 3 years
- c. 8 years
- d. All of a, b, c are possible
- e. Cannot be determine

#### **Question 16**

The yield increases on a bond that pays a 5.00% annual coupon. Given this increase, it can be said that the bond's price:

- a. Will increase.
- b. Will increase and the bond will sell at a premium.
- c. Will decrease.
- d. Will decrease and the bond will sell at a discount.
- e. Will not change.

#### **Question 17**

XYZ Corporation has just paid a dividend of \$0.50 per share. The current growth rate is 3.00% and shareholders require a return of 10.00%. What is the current market price of the share?

- a. \$ 5.00
- b. \$ 7.14
- c. \$ 7.36
- d. \$16.67
- e. Cannot be determined

#### **Question 18**

XYZ Corporation has just issued a dividend of \$0.375 per share. Dividends are expected to grow at a rate of 25.00% for the first two years and then at 7.00% indefinitely. If the required rate of return is 15.00%, what is the price of the share today?

- a. \$4.43
- b. \$4.47
- c. \$5.54
- d. \$5.68
- e. \$6.7