

5 Questions

Please read carefully through the Guidelines and make sure all the answers are correct.

Question 1 (20 marks)

The one-year interest rate is 9% and the expected annual inflation rate is 6%.

- a. What is the expected real interest rate? (10 marks)

- b. If the expected inflation suddenly rises to 8%, using Fisher's theory, critically discuss how would the nominal interest rate be affected? What about real interest rate? How would your answer change if the expected inflation rate suddenly decreases to 4%? (10 marks)

Question 2 (20 marks)

Some people believe firmly, even passionately, that ranking projects on IRR is OK if each project's cash flows can be reinvested at the project's IRR. They also say that the NPV rule “assumes that

cash flows are reinvested at the opportunity cost of capital.” Think carefully about these statements. Are they valid? Are they helpful? Critically discuss your answer (hint: refer to the formula of IRR).

Question 4 (20 marks)

- a) The cost of a new automobile is \$10,000. If the interest rate is 5%, how much would you have to set aside now to provide this sum in five years? (10 marks)

- b) You have to pay \$12,000 a year in school fees at the end of each of the next six years. If the interest rate is 8%, how much do you need to set aside today to cover these bills? (10 marks)

Question 6 (20 marks)

- a) You purchase a 10-year US Government bond (T-bond) with a par value of 4,000. The bond has an annual coupon rate of 4.86%, paid semi-annually. If investors demand a 0.986% semiannual return, what is the price of the bond? (10 marks)
- b) A 7-year bond is issued with a face value of \$10,000, paying interest of \$950 a year. If yields to maturity decrease shortly after the T-bond is issued, what happens to the bond's (10 marks)
- a. Coupon rate?
- b. Price?

Question 10 (20 marks)

The DIGATIVA company is planning to issue 50 million shares at the price of \$50 per share. It is expected that at the end of one year, the company will pay a dividend of \$2.5 per share and the one-year target share price will be \$55 per share. What expected rate of return can you declare to potential investors?

Would you invest in this company if opportunity cost of capital on the project with the same level of risk is equal to 10%?

What is the opportunity cost of capital is 20%? Critically discuss your answer.