

Financial Management Warsaw School of Economics

Exam, 7 June, 2002

STUDENT'S NAME:

For each of the questions in parts A and B, indicate your answer by circling the letter which identifies the best choice

Part A: Each of the following questions is worth 1 point.

Problem 1

A security will pay \$3,000 one year from today. Subsequent annual payments will grow at 6 percent rate and will continue forever. If the value of the security is \$75,000, the discount rate is

- a. .05
- b. .10
- c. .15
- d. none of the above

Problem 2

The Tuson Corporation is expected to pay a \$4 per share dividend at the end of the period. The current price of Tuson's stock is \$25 per share and the per share price at the end of the period is expected to be \$30. The total expected return on Tuson's shares is

- a. .133
- b. .16
- c. .167
- d. .20
- e. .36

Problem 3

If the security undervalued, then the expected risk-return combination corresponding to security lies _____.

- a. above the CML
- b. below the CML
- c. above the SML
- d. below the SML
- e. none of the above

Problem 4

The required rate of return for a project is

- a. the opportunity cost of capital
- b. the implicit reinvestment rate in the NPV method
- c. the minimum rate that the project must yield
- d. all of the above
- e. none of the above

Problem 5

- In efficient marketplace, positive NPV projects will eventually _____, due to increased _____.
- disappear, competition
 - multiply, profits
 - turn negative, competition
 - become more positive. efficiency
 - none of the above

Problem 6

- If a bond's yield to maturity equals its coupon rate, the bond sells at _____.
- a discount
 - a premium
 - par value
 - a deep discount
 - none of the above.

Part B: Each of the following questions is worth two points.

Problem 7

- Invesco is evaluating a \$200,000 project. Working capital requirements will decrease by \$20,000. The project will generate cash flows of \$22,000 per year forever. Find the NPV if the discount rate 10%.
- \$20,000
 - \$220,000
 - \$40,000
 - \$240,000
 - none of the above

Problem 8

- Maggie Fragrances produces and sells 32,000 bottles of Eau de Yuck perfume each year. Maggie's fixed costs are \$96,000 per year. Yuck sells for \$15.00 per bottle and has a per unit variable cost of \$4.00. Maggie is in the 25 % tax bracket and currently pays annual interest charges of \$45,000. What is Maggie's DFL ?
- 2,67
 - 1,21
 - 1,67.
 - ,83.
 - none of the above

Part C: Each of the following problems is worth five points.

Please be sure to show your calculations

Problem 9

Stock X has a beta of 0,60, stock Y has a beta of 0,80 and stock Z has a beta of 1,20. The risk-free rate is 5%, and the expected market return is 10%.

- (a) Find the expected market return on stock X.
- (b) Find the expected market return on stock Y.
- (c) Find the expected market return on stock Z.
- (d) Suppose that you construct a portfolio of 20%X, 30% Y, and 50% Z.
Using your answers to parts (a), (b), and (c) find the expected return of this portfolio.
- (e) What is the beta of the portfolio specified in part (d)
- (f) Using the information in the body of the problem and your answer to part (e), find the expected return on your portfolio.

Problem 10

A firm is thinking of purchasing a put option on the USD. The option has an exercise price of zł 3,90 and a premium of zł 0,20. The current spot rate is \$4,00.

- (a) Draw the payoff diagram for the option, labelling all of its parts.
- (b) Is the option in or out of the money ? By how much ?
- (c) What is the intrinsic value of the option ?
- (d) What is the time value of the option ?

Solutions 2002

- 1 b
- 2 e
- 3 c
- 4 d
- 5 a
- 6 c
- 7 c
- 8 b
- 9

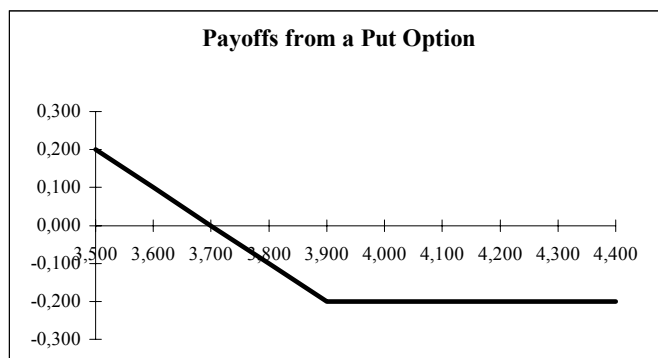
Solution

(a), (b), (c)	0,080	0,090	0,110
(d)	0,098		
(e)	0,960		

10

Solution

Price	Profit/loss	Minus Premium	Net profit/loss
3,500	0,400	-0,200	0,200
3,600	0,300	-0,200	0,100
3,700	0,200	-0,200	0,000
3,800	0,100	-0,200	-0,100
3,900	0,000	-0,200	-0,200
4,000	0,000	-0,200	-0,200
4,100	0,000	-0,200	-0,200
4,200	0,000	-0,200	-0,200
4,300	0,000	-0,200	-0,200
4,400	0,000	-0,200	-0,200



- (b) The put option is out of the money because the exercise price < current spot rate. It is out of the money by \$0,100/DM.
- (c) The intrinsic value of the put option is zero, because it does not pay to exercise it at the current spot exchange rate. Intrinsic value = $\text{MAX}\{0; 3,90-4,00\} = 0$.
- (d) Option time value = Option premium - Intrinsic Value = $0,20 - 0 = 0,20$.