

BEE2027/ BEE3033

UNIVERSITY OF EXETER

BUSINESS SCHOOL

May 2015

FINANCIAL MARKETS AND DECISIONS I

Module Convenor: Julian Neira

Duration: 90 MINUTES

Answer ALL questions from Sections A and B.

Section A is a Multiple Choice section.

Answer multiple choice questions on MCQ answer sheet.

You should fill in your details in your MCQ sheet, including your student ID AND your candidate number, and this should be inserted in your answer booklet.

Materials to be supplied:

Multiple choice answer sheet (MCQ)

Materials to be supplied on request:

None

Approved calculators are permitted.

This is a closed note paper.

Section A: Multiple Choice Questions (Total 40 points)

Answer all questions. There is one correct answer for each question. Each correct answer is worth 10 points, as indicated in each question. Incorrect answers score zero, i.e. there is NO negative marking. Answers should be marked on your MCQ Answer Sheet. Double-check the question numbers to make sure that you are marking on the right rows. Good luck!

1. (10 points) Harley's current wealth is £600, but there is a .25 probability that he will lose £100. Harley is risk neutral. He has an opportunity to buy insurance that would restore his £100 if he lost it.
 - (a) Harley would be willing to pay a bit more than £25 for this insurance.
 - (b) Harley would be willing to pay up to £25 for this insurance.
 - (c) Since Harley is risk neutral, he wouldn't be willing to pay anything for this insurance.
 - (d) Since Harley's utility function is not specified, we can't tell how much he would be willing to pay for this insurance.
 - (e) None of the above.
2. (10 points) Your borrowing rate is 15% per year. Your lending rate is 10% per year. A project costs £10,000 and has a rate of return of 12%. At what level of personal wealth are you indifferent between investing in the project or not.
 - (a) £5750
 - (b) £6700
 - (c) £7500
 - (d) £8000
 - (e) None of the above
3. (10 points) Bill owns an export business. The expected profit from his business is £100,000 a year. For every 1% increase in the value of the Japanese yen relative to the pound, its profits increase by £20,000, and vice versa. Bill plans to buy one of two firms. One is an import business which returns an expected profit of £70,000. For every 1% increase in the value of the Japanese yen relative to the pound, the profits of this firm shrink by £5,000, and vice versa. The second is a safe domestic firm which is certain to yield him £70,000 a year. The two firms cost the same. If Bill is risk averse,
 - (a) he should buy the import firm.
 - (b) he should buy the domestic firm.
 - (c) he should buy half of each of these two firms.
 - (d) it doesn't matter which he buys.
 - (e) None of the above

4. (10 points) The interest rate will be 10% for one more year, but a year from now, it will fall to 5% and stay at 5% forever. What is the market value of an investment that is sure to pay 220 a year forever, starting two years from today?
- (a) £4000
 - (b) £4,400
 - (c) £2,000
 - (d) £2,200
 - (e) £3,810

Section B: Show-Your-Work Questions (Total 60 points)

Answer all questions. Correct answers with no work or explanation receive 0 points.

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Asset M rate of return	-3%	3%	5%	11%
Asset i rate of return	17%	3%	11%	-7%

1. The table above gives you the returns of asset M (market) and asset i in four equally likely scenarios (states of nature).
 - (a) (3 points) Calculate the expected return of each asset.
 - (b) (3 points) Calculate the variance of the return on each asset
 - (c) (4 points) Calculate the covariance of the asset returns
 - (d) (10 points) Calculate the beta of asset i , β_i . Interpret the value of β_i . Does this make economic sense?
2. (20 points) Jamie's only source of wealth is his Italian restaurant. He has the utility function $pc_e^{1/2} + (1-p)c_{ne}^{1/2}$, where p is the probability of an explosion in the kitchen, $1-p$ is the probability of no explosion, and c_e and c_{ne} are his wealth contingent on an explosion and on no explosion, respectively. The probability of an explosion is $p = 1/10$. The value of Jamie's restaurant is £500,000 if there is no explosion and £50,000 if there is an explosion. Jamie can buy insurance where if he buys £ x worth of insurance, he must pay the insurance company £ $x/10$ whether there is an explosion or not, but he gets back £ x from the insurance company if there is an explosion. Solve for his optimal consumption bundle (c_e and c_{ne}) and the amount of insurance £ x purchased. What is the economic intuition for the answer you found?
3.
 - (a) (5 points) Define the Efficient Markets Hypothesis.
 - (b) (5 points) Give two reasons why the debate over the Efficient Markets Hypothesis is so hard to settle.
 - (c) (10 points) Discuss the evidence provided by Robert Shiller against the Efficient Markets Hypothesis in his 1981 article. What was the reply by proponents of Efficient Markets Hypothesis?