



May Examination Period 2025

ECN226: Capital Markets 1

Duration: 2 hours

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UNTIL INSTRUCTED TO DO SO BY AN INVIGILATOR**

**Answer ALL questions.
Partial credit will be awarded, so please show all work.**

Non programmable calculators are permitted in this examination. Please state on your answer book the name and type of machine used. Complete all rough workings in the answer book and cross through any work that is not to be assessed.

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Examiner: Dr Dennis Iweze

Question 1

The market consensus is that Stepney Green Plc has a ROE equal to 13%, and a market-capitalisation rate of 12%. The coming year's earnings per share are expected to be £3.60. The firm's plowback ratio is 50%.

- a) Find the price at which Stepney Green Plc's stock should sell using the constant-growth dividend discount model (DDM).

[10 marks]

- b) Calculate the present value of growth opportunities.

[5 marks]

- c) If you were the financial manager of Stepney Green Plc, would you prefer to plow earnings back into the firm to reinvest them, or would you pay out more earnings as dividends? Explain, in no more than 100 words.

[5 marks]

[Total 20 marks]

Question 2

- a) Draw the indifference curve in the expected return-standard deviation plane corresponding to a utility level of 0.02 for an investor with a risk aversion coefficient of 3.

(Hint: Increase the standard deviation by increments of 0.05, ranging from 0 to 0.25, and calculate the corresponding expected rates of return to achieve a utility level of 0.02. Afterwards, plot the points derived from the expected return and standard deviation.)

[15 marks]

- b) Now, on the same graph as part a, draw the indifference curve corresponding to a utility level of 0.02 for an investor with risk aversion coefficient $A = 4$. Comparing your answer here to part a, what would you conclude?

(Note: The mark you score in this part will be primarily based on your conclusions not your drawing.)

[10 marks]

[Total 25 marks]

Question 3

You manage a risky portfolio with an expected rate of return of 12% and a standard deviation of 28%. The T-bill rate is 2%.

- a) If your client prefers to invest in your fund a proportion y that maximises the expected return on the complete portfolio subject to the constraint that the complete portfolio's standard deviation will not exceed 12%, what is the investment proportion, y ?

[10 marks]

- b) What is the expected rate of return on the complete portfolio?

[5 marks]

- c) If your client's degree of risk aversion is $A = 3.5$, what proportion, y , of the total investment should be invested in your fund?

[10 marks]

[Total 25 marks]

Question 4

- a) Outline the separation principle of portfolio construction and explain why it is important for the mutual fund industry.

[10 marks]

- b) Explain the advantages and disadvantages of the index model compared to the Markowitz procedure for obtaining an efficiently diversified portfolio.

[10 marks]

- c) A firm's stock that must be held for 5 years is used to compensate managers. Explain, in no more than 100 words, the advantages and disadvantages of this form of managerial compensation in terms of mitigating agency problems, that is, potential conflicts of interest between managers and shareholders.

[10 marks]

[Total 30 marks]

End of Paper