LSE Summer School
FM250 – Finance

Classwork 5: CAPM

Question 1
The T-bill rate is 4% and the expected return on the market is 12%. Using the CAPM:
(a) What is the risk premium on the market?
(b) What is the required return on an investment with a beta of 1.5?
(c) If an investment with a beta of 0.8 offers an expected return of 9.8%, does it have a positive NPV?
(d) If the market expects a return of 11.2% from stock X, what is its beta?

Question 2
You are a consultant to a large manufacturing corporation that is considering a project with the following net cash flows (in millions of dollars):

Years	Cash Flow
0	-40
1-10	15

The project's beta is 1.8. Assuming that the risk free rate is 8% and the expected market return is 16%, what is the NPV of the project?

Question 3
Consider the following table, which gives a security analyst's expected return on two stocks A and D for two different scenarios for market returns:

Market return	Return A	Return D
5%	-2%	6%
25%	38%	12%

The beta of A is 2, and the beta of B is 0.3.

(a) What is the expected return on each stock if the market return is equally likely to be 5% or 25%?
(b) If the T-bill rate is 6% and the market return is equally likely to be 5% or 25%, draw the SML for this economy.
(c) Plot the two securities on the SML graph. What are the alphas of each?