

LSE Summer School
FM250 – Finance

Classwork 1: Present Values

Question 1

You own an empty parcel of land that you do not plan to sell. For an additional \$1.3 million you can build a motel on the property. The motel will be worth extra \$1.5 million next year. If common stocks with the same risk as the investment in the motel offer a 10% expected return, would you construct the motel?

Question 2

Calculate the NPV and rate of return for each of the following investments. The required rate of return is 20% for all four investments.

<u>Investment</u>	<u>Initial CF, C_0</u>	<u>CF in year 1, C_1</u>
1	-10,000	+18,000
2	-5,000	+9,000
3	-5,000	+5,700
4	-2,000	+4,000

Suppose each investment would require use of the same parcel of land and therefore you can take only one. Which one would you take and why?

Question 3

For an outlay of €8 million SBUX can finally open stores in Estonia. Unfortunately, the market value of these stores next year (assuming it can be measured) will be very sensitive to the growth rate of the Estonian economy:

Slump	Normal	Boom
€8 million	€12 million	€16 million

- (a) What is the expected cash flow? Assume the outcomes for the economy are equally likely.
- (b) What is the expected rate of return on the investment in the project?
- (c) One share of the Estonian stock market index is selling for €10. The stock has the following payoffs after one year:

Slump	Normal	Boom
€8	€12	€16

Calculate the expected rate of return offered by the index. Explain why this is the opportunity cost of capital for SBUX's expansion to Estonia.

- (d) Calculate the project's NPV. Is the project a good investment? Why?

Question 4

As winner of a hotdog eating contest, you can choose one of the following prizes, which will all happen with certainty:

- (a) \$100,000 now.
- (b) 180,000 at the end of five years
- (c) 11,400 a year forever
- (d) 19,000 for each of 10 years

If risk-free rate is 12%, which is the most valuable prize?