Assignment 2

Due on 2018-05-01, 23:59:59 IST.

Unit 3 - Week 2

Course outline

How to assess the product?

1. For an investor with the following utility function \( U(W) = W - 0.5W^2 \) the absolute and relative risk aversion measures are:
   \[ \begin{align*}
   &A(W) = 2W - W^2 \\
   &R(W) = 2W - W^2
   \end{align*} \]

2. For an investor with the exponential utility function \( U(W) = e^{-W} \) explain where, a = 4, the Pratt's risk aversion measures to:
   \[ \begin{align*}
   &L(u) = 4 \\
   &A(W) = 1 \\
   &R(W) = 1
   \end{align*} \]

3. For an investor with the exponential utility function \( U(W) = e^{-W} \) we can derive that the utility exhibits:
   \[ \begin{align*}
   &\text{Decreasing absolute risk aversion and consistent relative risk aversion} \\
   &\text{Constant absolute risk aversion and decreasing relative risk aversion} \\
   &\text{Increasing absolute risk aversion and consistent relative risk aversion} \\
   &\text{Constant absolute risk aversion and increasing relative risk aversion}
   \end{align*} \]

4. Decreasing absolute risk aversion and consistent relative risk aversion indicator:

5. If the firm has two options to offer, it will choose option a if its expected cash flow is greater than the cash flow from option b. On the other hand, if option a has a lower expected cash flow than that of option b, the firm will choose option b. How much of this is it willing to pay if the firm's MARR (minimum attractive rate of return) is less than to ensure a rational decision?

6. The following portfolio has a utility function of the form \( U(W) = W - 0.5W^2 \). Find the certainty equivalent:

   \begin{align*}
   &C.E. = \frac{1}{2} \\
   &C.E. = \frac{1}{2}
   \end{align*} \]

7. Conditional on being more than two out of three projects, A, B, and C, have been chosen, will be the expected investment return as per the safety-first principle:

8. A new product line is being considered by two machine makers. Each unit of product A requires 2 hours on machine 1 and 1 hour on machine 2. Product B requires 1 hour on machine 1 and 3 hours on machine 2. The unit production costs are Rs. 30 and Rs. 40 for A and B. Total daily capacity is available is 10 hours. Formulate the problem in terms of A and B to be produced.

9. The elasticity of demand states that no more than 14% of the distribution's values can be more than standard deviations away from the mean.