

Advanced Microeconomic Analysis

Homework #2, due April 10

Q1-9) In Jehle & Reny, do the following problems: 1.41, 1.42, 1.54, 1.56, 2.3, 2.16, 2.17, 2.25, 2.32

Q10) Suppose $u(w) = \ln(w)$.

- (a) Find the Arrow-Pratt measure of absolute risk aversion. Is the utility function CARA, DARA, or IARA?

Suppose a consumer has an initial wealth of w_0 and is choosing a fraction x of his wealth, where $0 \leq x \leq 1$, to invest in a risky asset. The risky asset has two outcomes: with probability p , it will give a return of 0 (a total loss), and with probability $1 - p$, it will give a return of r , so that if amount xw_0 is invested, the total return is rxw_0 . The portion of wealth not invested in the risky asset is stored as cash, which has a certain return of 100%. Assume that the expected return is positive.

- (b) In each of the two possible outcomes, what is the wealth of the consumer?
- (c) Write down the expected wealth of the consumer, as a function of x .
- (d) Write down the expected utility of the consumer, as a function of x .
- (e) Find the value of x that maximizes the expected utility of the consumer.