ADVANCED FINANCIAL THEORY

INTRODUCTORY EXAM 18.9.2004

2 h
Calculator allowed

1. Define briefly what is meant by:

   a) marginal rate of substitution (MRS)
   b) the axiom of measurability (certainty equivalent) in preference theory
   c) the axiom of (strong) independence in preference theory
   d) risk aversion (how could you define it ?)
   e) safety first according to Kataoka's criterion.

(10 p)

2. An investor has the following utility function:

$$U(W) = W - bW^2$$

Compute whether he has an increasing / constant / decreasing absolut, and relative risk aversion (ARA and RRA). Also define verbally the two risk aversion definitions. What type of risk aversion do people really seem to have, i.e. what does empirical evidence indicate concerning ARA and RRA ?

(10 p)

3. Two investment alternatives A and B have the following expected cash flows:

prob.	A	B
0.1	6	4
0.2	8	7
0.4	10	10
0.2	12	13
0.1	14	16

Can you rank these investment alternatives according to **first and second degree stochastic dominance** (does one project dominate the other according to these criteria) ? Show your calculations and define what is meant by 1st and 2nd degree stochastic dominance !

(10 p)