

BAYLOR UNIVERSITY
HANKAMER SCHOOL OF BUSINESS
DEPARTMENT OF FINANCE, INSURANCE & REAL ESTATE

Risk Management
Dr. Garven
Problem Set #4

Name: _____

Show your work and write as legibly as possible. Good luck!

Miles and John are considering two mutually exclusive risky investments, 1 and 2, with payoffs given by:

$$W_{1,s} = \begin{cases} \$20 & \text{with probability } 20\% \\ \$60 & \text{with probability } 50\% \\ \$100 & \text{with probability } 30\% \end{cases} \quad \text{and} \quad W_{2,s} = \begin{cases} \$40 & \text{with probability } 55\% \\ \$80 & \text{with probability } 45\% \end{cases}$$

Suppose Miles and John each have initial wealth $W_0 = \$0$. However, Miles's utility $U(W) = W^5$, whereas John's utility $U(W) = \ln W$.

- A. Calculate Miles's expected utility ($E(U(W))$) for both investments.

- B. Calculate John's expected utility ($E(U(W))$) for both investments.

- C. Does either investment first order stochastically dominate the other? Explain why or why not.

- D. Compare these investments once again. Is there second order stochastic dominance? Explain why or why not.

- E. Which investment should Miles choose? Explain why.

- F. Which investment should John choose? Explain why.