4.14 You have estimated the following probabilities for earnings per share of companies A and B:

Probability	A	B
.1	0	−.50
.2	.50	−.25
.4	1.00	1.50
.2	2.00	3.00
.1	3.00	4.00

a) Calculate the mean and variance of the earnings per share for each company.

b) Explain how some investors might choose A and others might choose B if preferences are based on mean and variance.

c) Compare A and B, using the second-order stochastic dominance criterion.

4.15 Answer the following questions either true or false:

a) T _____ F _____ If asset A is stochastically dominant over asset B according to the second-order criterion, it is also dominant according to the first-order criterion.

b) T _____ F _____ If asset A has a higher mean and higher variance than asset B, it is stochastically dominant, according to the first-order criterion.

c) T _____ F _____ A risk-neutral investor will use second-order stochastic dominance as a decision criterion only if the returns of the underlying assets are normally distributed.

d) T _____ F _____ A second-order stochastic dominance criterion is consistent with utility functions that have positive marginal utility and risk aversion.

4.16 Consider the following two risky scenarios for future cash flows for a firm:

Project 1	
Probability	Cash Flow, $
.2	4,000
.6	5,000
.2	6,000

Project 2	
Probability	Cash Flow, $
.4	0
.2	5,000
.4	10,000

Given that the firm has fixed debt payments of $8000, and limited liability, which scenario will shareholders choose and why? How would your answer change if there were not limited liability?

4.17 (Our thanks to Nils Hakansson, University of California, Berkeley, for providing this problem.) Two widows, each with $10,000 to invest, have been advised by a trusted friend to put their money into a one-year real estate trust which requires a minimum investment of $10,000. They have been offered a choice of six trusts with the following estimated yields: