

UNIVERSITY OF ROCHESTER

William E. Simon Graduate School of Business Administration

Finance 411
Investments

Professor G. William Schwert
Spring 1997

Quiz # 5: Take-home Assignment, Due in class on May 19, 1997

Write a brief answer to the following questions in the space provided below. ***This is an individual assignment. If you collaborate, you risk failing the entire course.***

1. (10 points)

Graph the portfolio opportunity set when there are only two risky assets. The expected monthly returns, standard deviations, and covariances of returns are:

$$E(R_a) = .01, E(R_b) = .02, \sigma(R_a) = .08, \sigma(R_b) = .08 \text{ and } \text{cov}(R_a, R_b) = 0.0032.$$

- (a) Draw the investment opportunity set and label the efficient set (e.g., highlight it with a colored marker, or some other distinctive method).

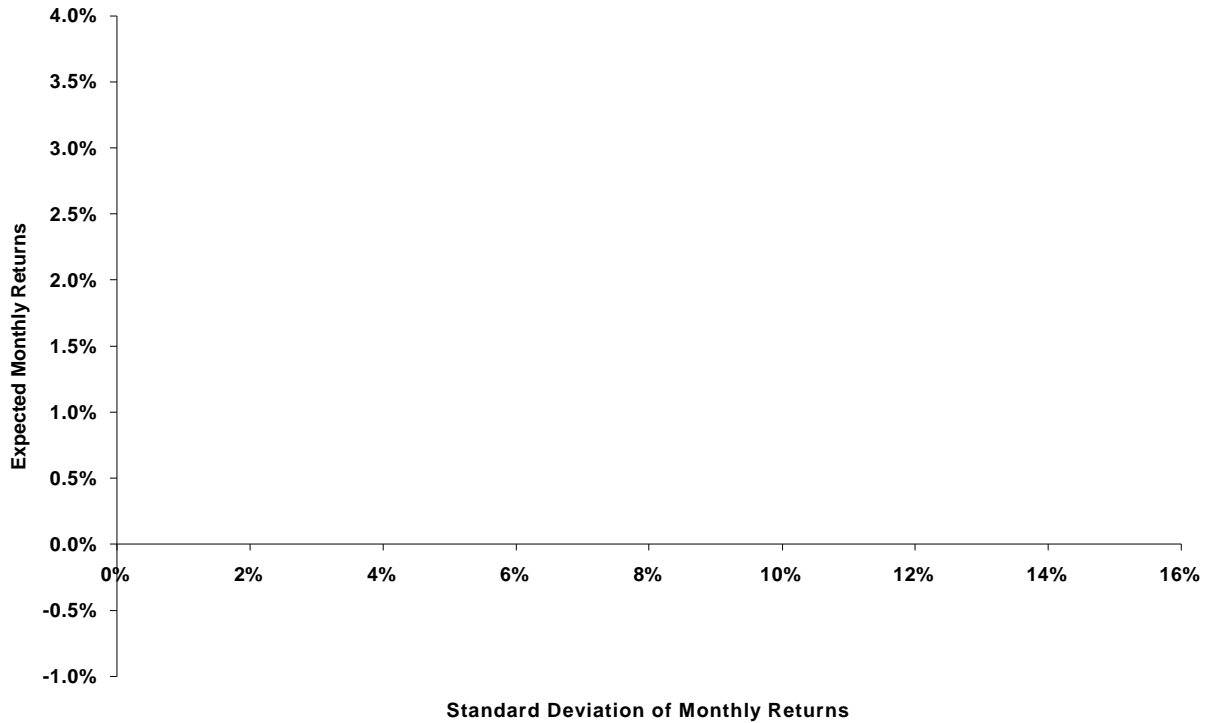


(b) What is the maximum amount that a risk averse expected utility maximizing investor would invest in asset b? *[Explain your answer!]*

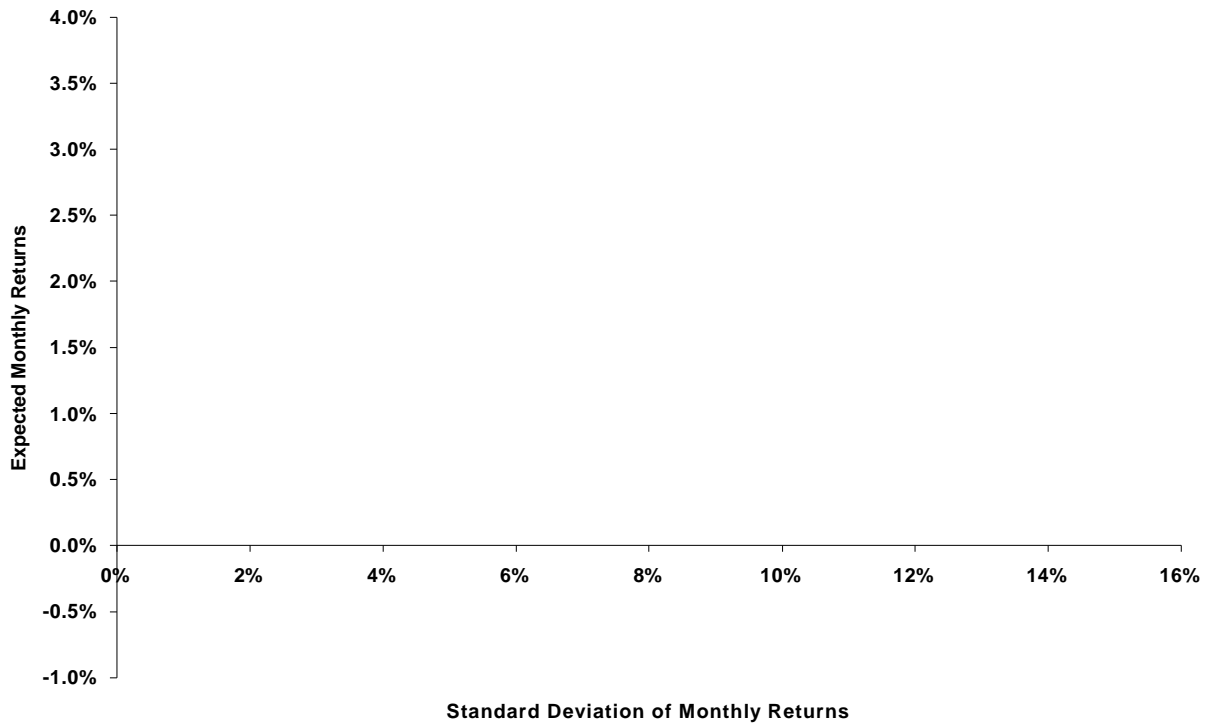
(c) What is the most that this same individual would invest in asset a? *[Explain your answer!]*

(d) Could this situation exist in equilibrium (where all investors see the same opportunity set)? If not, what would you expect to happen?

(e) Suppose $\text{cov}(R_a, R_b) = -0.0064$. Draw the investment opportunity set and label the efficient set (e.g., highlight it with a colored marker, or some other distinctive method).



(f) Suppose $\text{cov}(R_a, R_b) = 0.0064$. How would you answer questions (a) - (d)?



(g) What is the maximum amount that a risk averse expected utility maximizing investor would invest in asset b? *[Explain your answer!]*

(h) What is the most that this same individual would invest in asset a? *[Explain your answer!]*

(i) Could this situation exist in equilibrium (where all investors see the same opportunity set)? If not, what would you expect to happen?