

## FIN 410 Investments

### Sample EXAM I: E&G Chapters 1, 2, 3, 10, 17

Answer all questions. You have 90 minutes to complete this exam. Use your time wisely. There are 50 points possible. Points assigned to each question appear in margin beside question.

In accord with School policy, the following pledge must be signed by all students on all exams:

“On my honor, I have neither given nor received any unauthorized aid on this exam. Nor am I aware of anyone giving or receiving any unauthorized aid on this exam.”

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

1. A. Briefly distinguish among the following terms:
  - (3) a. Fixed Income Securities;
  - (3) b. Not-so-fixed Income Securities;
  - (3) c. Equity.
- (3) B. Briefly distinguish between the terms, Market Cap and Total Enterprise Value.
- (3) C. Briefly distinguish between the terms, Asset Turnover and Gross Margin.
2. A. Carefully compare and contrast the fair game model and the random walk model as models of market efficiency.
  - (5) B. You feel that, when a company publicly announces a revision of earnings estimates, an excess return can be earned by trading in its stock. Carefully explain how you would test your hypothesis, given daily data on the stock price behavior of many companies that have made such public announcements.
3. A. Assume that anyone can lend or borrow all they want (within reason) at  $R = 10\%$ . Furthermore, you have the following two employment opportunities, involving the same working conditions, but different compensation packages over the first two years:
  - Job a: pays  $Y_1 = 30$  and  $Y_2 = 57.5$ ;
  - Job b: pays  $Y_1 = 55$  and  $Y_2 = 30$ ;
  - where  $Y_i =$  income in period  $i$  (thousands of dollars).
  - (5) Which job would you choose and why?
  - B. Consider the same situation, except that while borrowing is allowed for everyone at  $10\%$ , the lending rate for everyone is only  $5\%$ .
    - (5) Under these conditions, which job would you choose and why?

4. You buy 100 shares of stock ABC at \$10/share on 50% margin.

(2) A. What is the initial value of the following?

- i. the assets bought;
- ii. the amount borrowed;
- iii. your equity position.

(2) B. Suppose the stock price increases 50% to \$15/share.  
Now what is the value of i, ii, and iii, in A. above?

(2) C. Suppose instead the stock price decreases 50% to \$5/share.  
Now what is the value of i, ii, and iii, in A. above?

5. Consider the following two investment alternatives:

Investment A		Investment B	
<u>\$ Outcome</u>	<u>Probability</u>	<u>\$ Outcome</u>	<u>Probability</u>
\$3	1/3	\$4	1/4
\$9	1/3	\$8	1/4
\$18	1/3	\$14	1/2

(5) A. Compare the mean and variance of these two investments.

(5) B. Suppose your utility function is the following:  $U(W) = W - .01W^2$  ;  
Show how you would choose between these two investment alternatives  
by maximizing expected utility.

(5) C. Discuss the economic characteristics of the utility function in B. above.