

Assignment #2 (60 points total)

Instructions:

- Answer all question and **show all your work**.
 - You are not required to type up your answers, but please write neatly and legibly.
 - This assignment is due in class on May 19, 2010.
 - A 20% penalty will be assessed for any late submissions within seven days, and no assignment will be accepted after May 26, 2010.
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1. (8 points) Suppose the risk-free rate is 6 percent and the expected return on the market is 12 percent.
 - a. If a stock has a beta of 0.7, what is its required return based on CAPM?
 - b. If another stock has an expected return of 18 percent, what must its beta be?
2. (10 points) An investor has \$15,000 invested in a stock which has an estimated beta of 1.2 and another \$5,000 invested in the stock of the company for which she works. The risk-free rate is 6 percent and the market risk premium is 8 percent. The investor calculates that the required rate of return on her portfolio (total \$20,000) is 15 percent. What is the beta of the company for which she works, β_c ?
3. (10 points) Consider a portfolio that consists of the following assets.

Stock	Investment	Beta
A	\$200,000	1.50
B	\$300,000	-0.50
C	\$500,000	1.25
D	\$1,000,000	0.75

The market required rate of return is 15 percent and the risk-free rate is 7 percent.

- a. Find the β of this stock portfolio.
 - b. What is the required rate of return of this portfolio?
4. (8 points) A share of common stock has just paid a dividend of \$3.00. Suppose the expected long-run dividend growth rate is 5 percent and the required return of the stock is 12 percent. What is the current price of the stock?
 5. (12 points) The last dividend paid by Company A was \$2.50. Its growth rate is expected to be 12 percent for two years, after which dividends are expected to grow at a rate of 5 percent forever. The company's stockholders require a rate of return on equity (r_s) of 14 percent.

- a. Draw a clear and accurate time line.
 - b. Find the current price of the stock P_0 .
6. (12 points) Newark Co. Ltd. just paid a dividend of \$3.6 per share on its stocks. The growth rate in dividends is expected to be 5% per year indefinitely.
- a. If the stock currently sells for \$45.75 per share, what is its required rate of return?
 - b. What is the stock's dividend yield?
 - c. Find P_1 and use it to verify that the expected capital gains yield is equal to the long-term growth rate.