UCLA Anderson **Fall 2018**
MGMTMFE 400 **Prof. Mikhail Chernov**

Problems for Lecture 8

1. Security B has a price of $35 and a beta of 1.4. The risk-free rate is 5% and the market risk premium is 6%.

   (a) According to the CAPM, what return do investors expect on the security?

   (b) Investors expect the security not to pay any dividend next year. At what price do investors expect the security to trade next year?

   (c) At what price do investors expect the security to trade next year, if the expected dividend next year is $2 instead of zero?

2. Consider the following table, which gives a security analyst's expected return on two stocks for two particular market returns:

Market Return	Aggressive Stock	Defensive Stock
5%	2%	3.5%
20%	32%	14%

   (a) What are the betas of the two stocks?

   (b) What is the expected rate of return on each stock if the market return is equally likely to be 5% or 20%?

   (c) If the T-bill rate is 8% and the market return is equally likely to be 5% or 20%, draw the SML for this economy.

   (d) Plot the two securities on the SML graph. What are the alphas of each?

3. In this problem you will use the returns in the file `lecture8p.xlsx`, to compute betas and alphas for all five companies (Microsoft, Intel, Southwest, McDonald's, and Johnson & Johnson).

   (a) Regress excess stock returns on excess market returns to obtain estimates of the betas of the five stocks. What is the standard deviation of these estimates?

   (b) What are the estimates of the alphas, and the standard deviation of these estimates? What are the estimates of the standard deviation of idiosyncratic risk?

   (c) According to the CAPM, which stock should have the highest expected return? Which stock should have the lowest expected return? Estimating expected returns from sample averages, check whether these CAPM predictions are supported by the data.