

EXERCISE 3: Capital Asset Pricing Model

This exercise is based upon those at the end of Chapter 2 in Berndt. The data is the same except that it has been collected in a Microfit file.

1. Start Microfit
2. Read in the file CHAP2.FIT, which contains monthly share return data.
3. Have a look at the descriptions of the variables.
4. Plot MARKET from Jan 78 to Dec 87 and then IBM over the same period.
5. What do the plots tell you?
6. Construct the risk premium measures $r_p - r_f$ and $r_m - r_f$, using:
RIBM = IBM - RKFREE
RMARKET = MARKET - RKFREE
Plot these and look at what happened October 1987.
7. Get the sample means using:
COR IBM MARKET RKFREE RIBM RMARKET
Work out the values you would expect for β if you estimated
 $(r_j - r_f) = \alpha_j + \beta_j (r_m - r_f) + e_j$
8. Estimate β for IBM using RIBM = $\alpha_j + \beta_j$ RMARKET + e_j
9. Are the results what you would expect?. Look at the residuals and consider any outliers.
10. Choose two companies, a highly risky one and a relatively safe one and estimate their values of β . Are they what you would expect?
11. Look at the plots over time and the plots of the residuals. Are there any outliers? How would you interpret them?
12. Test the null hypothesis that $\alpha = 0$ and the hypothesis that $\beta = 1$. What are the implications of these results?
13. If you wish follow the rest of the Exercises in Berndt Chapter 2.