Mgmt 469

Practice Using Stata; Estimating CAPM

In this tutorial, you will use monthly returns on several assets to compute stock betas. (The data is from 1978-1987.) Be sure to do steps 1-4. Steps 5-10 require navigating folders. This may prove tricky and can be skipped if you like.

1) You have three options for getting the data. Option (a) is much preferred for now. I will assume that you choose option (a) for this practice project.

a) I will send you the data as attachments to an email. You can then save the files to the folder of your choice on the lab computer (or your own computer if you own Stata.)

b) You can find the link on the course page. If you choose this option, please save the data to another folder. Do not work with the original data set.

cd path:\folder
save mycapmfile

I will assume you have selected option (a).

You should now open Stata (as you would any other program) and then open the capm.dta Stata file (again, as you would with any other file.)

2) Create new variables representing the risk premia for the market and for General Foods

ge rpmarket=market-riskfree
ge rpgenmills=genmills-riskfree

3) Obtain some summary statistics

su riskfree market genmills
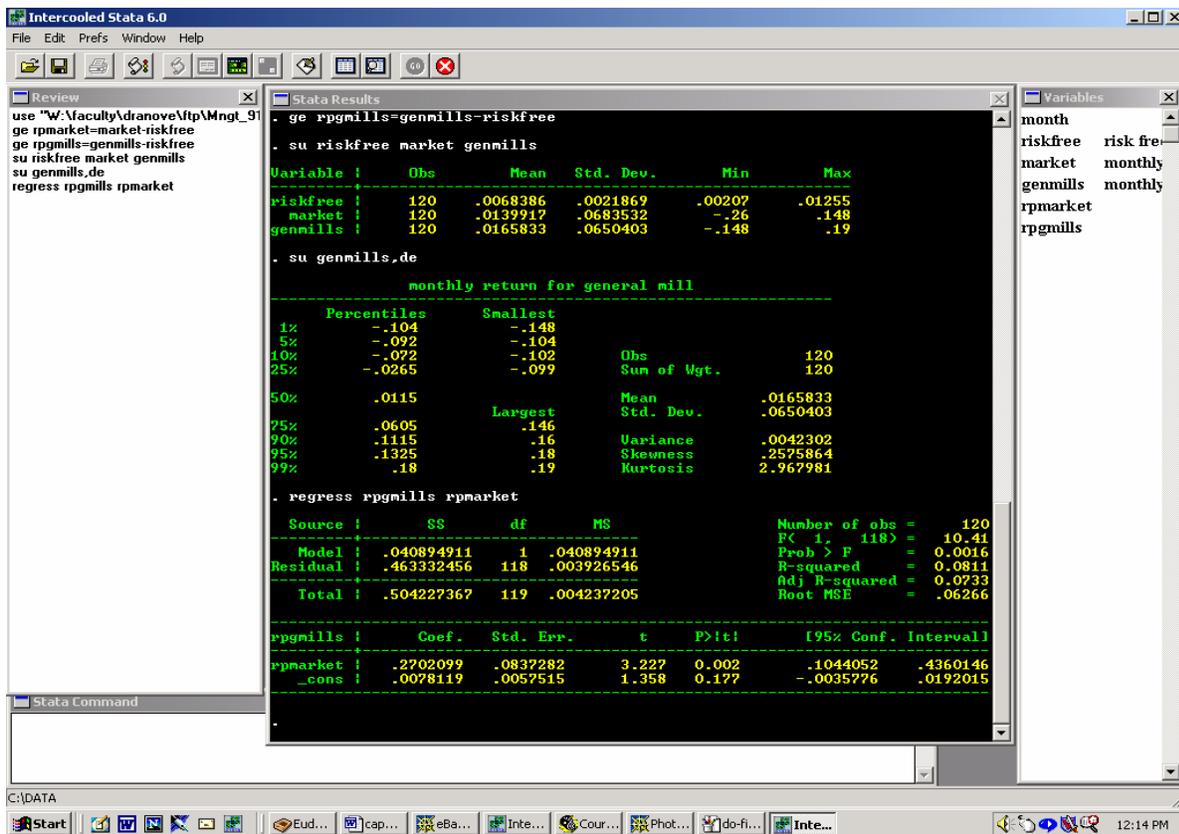
or, better yet,

su riskfree, de (this provides detailed statistics)

Which has the highest return? Which has the lowest variance? Are you surprised?

4) Compute beta. Regress rpgmills on rpmarket:

regress rpgenmills rpmarket

At this point, your Stata screen should look something like the next page (the location of your windows will vary)

Is your beta around .27?   What is the intercept? Does it surprise you that the intercept is not statistically different than 0? (It shouldn't; that is a prediction of CAPM.)

5) Save your data and clear the working space so that you can read in a new data set. Because you will be merging data sets, be sure to sort by month before saving.

sort month
save capmmyname
clear

At this point, be sure to remember the path:\folder in which you have saved your data. (type **pwd** to find your folder. If you can't figure this out when working in the lab, feel free to quit. It will get much easier when you are using your laptop.)

6) Let's open second file, capmdata2.dta. This file contains additional return data for Mobil and Motorola. Open this as you did capm.dta.

7) You will want to merge with capm.dta file. The first step is to merge by the linking variable, month:

sort month

The normal syntax for merging is now:

merge month using capmmyname

8) If this does not work, it is because the two data sets are in different folders. Make sure both are saved to the same folder. Then make sure Stata is working from that folder:

cd path:\folder

9) If you are having problems navigating the folders, you can also merge using the GUI interface. Try clicking on **data, combine datasets, merge**.

If you are still having problems, feel free to quit. <u>Never spend more than 5 minutes on syntax</u>. If you can't figure it out in 5 minutes, odds are you won't figure it out in 5 hours!

10) Now estimate betas for Motorola and Mobil. How do they compare with the beta for General Mills? Are you surprised?

11) Try fooling around with other commands. This is your chance to make mistakes without doing any harm!