Applied Econometrics

Limdep Exercise: Growth and Firm Size

Limdep is a very powerful package and is particularly useful for cross sectional data. It is, however, much less user friendly than microfit. This is most obvious in the fact that it is command driven rather than menu driven so you do have to have knowledge of the commands and their form to use it.

This exercise will allow you to replicate some of the results in Dunne and Hughes (1993) discussed in the lecture. You will need a copy of the dataset ass1283.dat and this is available on the module website.

Steps:

1. Run Limdep 7.0

2. You will see an 'Untitled Project' window. Ignore for now, you can rename later

3. Open the editor window: using 'New' in the File men. This will open 'Untitled 1' command window. Again you can rename later

4. Read in the data:

First type in the following command:

read;file=a:ass1283.dat;nobs=1283;nvar=6;format=(7x,3f4.0,3f12.0);blanks; names=size,ind,dy,ls85,ls80,lage$

This means that the data is in the file ass1283.dat in the a: drive in fixed format (the same variable is in the same place on each line):

Format	Variable	Name
F7.0	Code number which we skip as shown by 7X	
F4.0	Size group (1=small; 2=medium; 3=large)	size
F4.0	Industry 1-19	ind
F4.0	Dummy variable = 1 if survives to 1985	dy
F12.0	Log of company size in 1985	ls85
F12.0	Log of company size in 1980	ls80
F12.0	Log of company age in 1980	lage

Block this command using the mouse and then use the Run menu to select Run Selection. This reads in the data. Note that you have to type it exactly right and that the $ tells the program it has got to the end of the command while a semicolon breaks up the line into component parts.

4. *Check the data input:*

Now have a look at it using the data editor in the Project menu (or grid icon) NB there are a lot of observations. You will see that there are some blanks in the cells. Limdep has read these as missing values (because of the word "blanks;" in the read statement).

5. Summarise the data:

You can summarise the data by asking for some descriptive statistics (dstats)

dstats;rhs=size,ind,dy,ls85,ls80,lage$

rhs is used to refer to dependent variables and lhs to independent variables.

6. Change the sample

While the dstats command recognise the missing values estimation commands do not and we need to explicity reject the missing values. These are all -999 so we can simply use:

reject; ls80<0$
reject; ls85<0$

there are other commands such as skip which would also work.

7. Run a regression

To run a basic conditional regression use the crmodel command and specify the dependent variable as ls85 and the independent as the constant (one) and ls80

crmodel;lhs=ls85;rhs=one,ls80$

This will give the result for the total sample in Table VII in the article.

8. Show what would have happened if you had not explicitly removed the missing values:

First go back to the total sample using:

sample; all$

then use

crmodel;lhs=ls85;rhs=one,ls80$

9. Create some new variables

For the whole sample create squared and interactive terms.

create;ls80sq=ls80*ls80;lagesq=lage*lage;lsage=ls80*lage$

10 Estimate the Sample Selection Model

First we need to remove some inconsistent observations. Namely were we have a missing value in1980 or when we have a company that has a missing value but registers as a survivor.

Sample; all$

reject; ls80<0$
reject; ls85<0&dy=1$

This requires estimating a probit model where the dependent variable is the survival dummy:

probit;lhs=dy;rhs=one,ls80,ls80sq,lage,lagesq,lsage;hold$

and then using the sample selection procedure. In this case the mle option means that it will use the full maximum likelihood procedure, rather than only the Heckmann two stage procedure. The linear probability model will provide the starting values for the probit and a logit could be estimated in a similar way.

select;lhs=ls85;rhs=one,ls80,lage;mle$

This should give you the result for the full sample in Table VIII(b).

10. Replicating the other results

You can replicate the results for the different size groups and industries. To estimate for the smallest of the companies

Sample; all$
reject; ls80<0$
reject; ls85<0&dy=1$
reject; size>1$

for medium sized:
Sample; all$
reject; size=1 $
reject; size>2 $
reject; ls80<0 $
reject; ls85<0&dy=1 $

and so on

11. Saving the session

1. You can save the project using the File menu. This means you can start from where you left off the next time.

2. Alternatively, you can save the commands you have typed in, in a file, if you wish. You can use this in the next session, but will then have to read in the data again the next time you start and create any variables over again. They are stored in ass1283.com

3. You can simply save the commands in a word file and use cut and paste to move them into the command file.

12. Other exercises
A similar exercise to the above on the top defence contractors 1988-93 is available as
Commands: top9388.wks

Data: top9388.com