Econometric Game 2012

Case B

How does maternal smoking during pregnancy affect infants' birthweight?

Background

The question being addressed is essentially the one that was considered in Case A, but now panel data are available. This will allow the consideration of some new modelling issues and may permit a different interpretation of the results.

Research Question

Building on the results of Case A, study the possible effects of maternal smoking during pregnancy on the distribution of infants' birthwight. Again, there are many ways to address this question and therefore you should decide what is the most interesting and informative approach to use.

Data

The data available for this study is a 3-wave panel of 12360 women. Notice that each wave represents a birth and therefore the waves are not equally spaced in time. Also, the 3 births are consecutive but do not have to be the first 3 births for that woman. Again, it is assumed that the sample is representative of the population of interest. The data are described in detail in the file `data_details_B.txt` and the variables available are similar to those used by Abrevaya (2006).

Modelling Issues

The availability of panel data allows you to better address a number of the issues that were already considered in Case A, and opens up the possibility of exploring different aspects of the problem at hand. What are the issues that can be better addressed with panel data (as opposed to cross-sectional data), why, and how? Are there any interesting aspects of the problem that can be investigated using the new data? Does the availability of the new data change the conclusions you obtained with cross-sectional data? Why do you think that happens?

Again, you should: a) provide clear justifications for the choices you make; b) clearly interpret your results; and c) spell out any limitations of your analysis.

Reference

Abrevaya, J. (2006), "Estimating the Effect of Smoking on Birth Outcomes Using a Matched Panel-Data Approach," *Journal of Applied Econometrics*, 21, 489–519.