

Problem set to Lecture 4

Estimate returns to education

Important

Upload a log file that includes both the commands and outputs!
Use comments for discussion of results.

Data

This exercise uses public data from Oreopoulos (2006) that can be downloaded from <https://www.openicpsr.org/openicpsr/project/116082/version/V1/view>. You can download the replication package, along with the data, after registering with your university email address and accepting the terms and conditions. The ZIP file with contains country-specific DTA files used to run the analysis. You will use `uk/combined-general-household-survey.dta` in this exercise.

The objective is to replicate the results presented in Tables 3 and 4 in Card and Krueger (1994).

1. Prepare variables necessary for the estimation

- age in 1947 (note that year of birth coded 30 means 1930)
- affected by ROSLA (aged 14 in 1947)
- log earnings (`earn` variable)
- drop observations from Northern Ireland, with missing earnings, born before 1921 or after 1951, or aged 65+

2. Estimate IV regression

$$\begin{aligned} Y_i &= \beta_0 + \beta_1 S_i + \beta_3 X_i + u_i \\ S_i &= \alpha_0 + \alpha_1 ROSLA_i + \alpha_3 X_i + v_i \end{aligned} \tag{1}$$

3. Calculate proportion of full-time employees in FTE employment in each state and period. Then, calculate the differences in proportions over time in each state, between states in each period and difference-in-differences.
4. Compare the results to the predictions of standard labour demand theories. Discuss possible explanations for the discrepancies.
5. Discuss possible issues with the dataset and/or estimation strategy. Suggest ways to mitigate the issues and explain how they would help improve the estimates.

Card, David, and Alan B. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *The American Economic Review* 84 (4): 772–93. <https://www.jstor.org/stable/2118030>.

Oreopoulos, Philip. 2006. "Estimating Average and Local Average Treatment Effects of Education When Compulsory Schooling Laws Really Matter." *American Economic Review* 96 (1): 152–75. <https://doi.org/10.1257/000282806776157641>.