

Part 2B Microeconomics: Policy Evaluation

Assignment 2

(To be completed after Lecture 8)

Do questions 1 to 3 for the supervision. The Essay Question 3 will be marked.

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Question 1

- Would IV estimates tend to be larger or smaller than OLS estimates?
- What is the difference between a fixed effect estimator and a difference in difference estimator?

Question 2

Read Ashenfelter, O. and A. Krueger (1994) Estimates of the Economic Returns to Schooling from a New Sample of Twins, *American Economic Review*, 84(5): 1157-73.

- How do the authors exploit data on twins to estimate the return to schooling? Do you find their approach plausible?
- How do the estimated returns to schooling differ between OLS and the preferred approaches in the paper that use twins to deal with endogeneity of schooling.
- Is the instrumental variable that they use likely to be a good instrument?
- Compare their estimates compare to other estimates in the literature that use instrumental variables (such as Angrist and Krueger, 1991) to estimate the returns to schooling? Do their findings help clarify the puzzle of why IV estimates of the return to schooling in the literature are often higher (or at least not smaller) than OLS? Explain how potential biases differ across the IV and FE approaches.

Question 3

Two policies are under consideration for improving road safety in England.

1. Reducing the drink-driving limit from 80 to 50 milligrammes (mg) per 100 millilitres (ml) of blood.
2. Reducing the speed limit from 70 miles an hour to 55 miles an hour.

A researcher has collected the following facts. The drink driving limit in England is currently 80 mg of alcohol per 100 ml of blood. In Scotland the limit was reduced from 80 mg to 50 mg in December 2014. In Poland the limit is 20 mg. The speed limit is 70 miles per hour on motorways in Scotland and England and 90 miles per hour in Poland. How would you evaluate, using data for these three countries, which policy should be introduced?

Alternatives

1. Suppose you are interested in studying the effect of welfare (specifically cash payments with small income exemption) on the decision to work. Suppose that currently the welfare system is such that individuals under the age of 30 receive considerably lower amounts of welfare support than those who are 30 years old or older (just 1/3rd the amount). Your data include information about participation rates by age and benefits status, along with other demographic information.
 - Explain the potential sources of bias in estimating an effect of welfare on the decision to work using an OLS regression. How might a regression discontinuity approach could be used to address these problems (and answer your question of interest).
 - Describe at least 2 reasons that your regression discontinuity strategy might fail and how you might address these issues and/or test whether these are likely to be problematic in your setting.
2. Meyer and Rosenbaum (2001) estimate the effect of changes in welfare in the U.S. in 1984-86 on single mothers work participation. The policy was aimed at getting single mothers off of welfare and working. Specific policies included tax credits associated with work (below certain income levels) and time limits on receipt of welfare for those who were not working.
 - Suppose participation rates for single mothers increase after the policy is introduced. What does that tell us about the effect of the policy?
 - How might a difference-in-difference estimator help identify causation. Suppose we also want to estimate an effect of the welfare reform on hours worked. Would the Diff-in-diff identification strategy work for this?