2023 Econometrics Game

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Prompt

Welcome to the Econometrics Game! Your task is to identify and estimate a causal effect relating to education at any stage of the life-cycle. Some examples are discussed below.

A vast body of research conducted by the Center for the Economics of Human Development at the University of Chicago explores the circumstances under which people develop the skills necessary to achieve their fullest potential and thrive in the current economy. A few examples of papers which quantify the effect of early-childhood programs on outcomes such as earnings, health and cognitive and personality skills include García et al. (2020), Heckman et al. (2013) and Heckman and Raut (2016).

In the context of primary education, Duflo et al. (2011) and Card and Giuliano (2016) find a positive effect of 'tracking' students into separate classes by prior achievement, and Duflo et al. (2012) use a randomized experiment and structural model to examine whether monitoring and financial incentives can reduce teacher absence and increase learning in India. They find a drop in absenteeism, an increase in test scores, and, using their structural model, find that teachers respond strongly to financial incentives. In the context of higher education, Chetty et al. (2020) construct statistics on parents' incomes and students' earnings outcomes for each college in the U.S. and estimate the portion of the variation in students' earnings outcomes due to colleges' causal effects. They find that children of low- and high-income parents who attend the same college have relatively similar earnings outcomes, but children from more affluent families are much more likely to attend colleges with high earnings outcomes. They argue that a change in how students are allocated to colleges may increase intergenerational mobility. In a randomized trial, Angrist et al. (2009) evaluate interventions such as offering academic support services and financial incentives for good grades among college freshmen and find persistent effects on grades and academic standing for female students. Some authors investigate factors that influence educational decisions. For example, Wiswall and Zafar (2014) use an information experiment to study the effects of earnings expectations, perceived ability and heterogeneous tastes on major choice. Heckman et al. (2018) estimate the effect of higher education on earnings, health, and smoking using a dynamic model of educational choice.

Data

The datasets from Angrist et al. (2009) and Chetty et al. (2020) are linked below. A brief description of each dataset:

- **Angrist et al. (2009):** Cross-sectional dataset consisting of 1,656 observations for 48 variables, including gender, age, academic performance, and family characteristics. The individuals in the study were undergraduate students at a large Canadian university.

- **Chetty et al. (2020):** Cross-sectional dataset consisting of 2,202 observations at the college level for 85 variables, including measures of intergenerational mobility and college characteristics such as proportion of female students and proportion of married students.

Feel free to supplement these datasets with others. Links to data and replication files for some of the papers cited here:

- Click here for complete data and replication files for Angrist et al. (2009)
- Click here for complete data and replication files for Chetty et al. (2020)
- Click here for partial data and replication files for Duflo et al. (2011)
- Click here for partial data and replication files for Duflo et al. (2012)

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