Research topics in labor economics

Empirical part

AA 2024–25

Instructor:

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Educational content of the empirical part of the course

- This part of the course will illustrate how to conduct, in practice, a statistical analysis of the labor market, **with a particular emphasis on policy impact evaluations**. As a working tool, we will use the STATA software.

- We will proceed by steps:
  - introduction to STATA and its basic commands
  - interpretation of OLS regression models through the STATA software
  - interpretation of models for causal inference through the **replication in STATA of published scientific articles in the field of labor economics**, focusing on the following methods:
    - *randomized controlled trial (RCT) model*
    - *differences-in-differences model*
    - *instrumental variable (IV) model*
    - *research discontinuity design (RDD) model*

Mandatory learning objectives (1)

- The mandatory learning objective of this course is to be able to conduct a simple regression analysis, producing an output like the following and being able to interpret this output answering to some basic questions:

```
reg EMPTOT _INEWJERSEY1_ _IAFTER_1 _INEWXAFT_1_1, cluster(id)
```

```
Linear regression                               Number of obs =      794
                                                F(  3,   409) =     1.80
                                                Prob > F      =   0.1462
                                                R-squared     =   0.0074
                                                Root MSE      =   9.4056
```

(Std. Err. adjusted for **410** clusters in ID)

EMPTOT	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
_INEWJERSEY_1	-2.891761	1.439546	-2.01	0.045	-5.721593	-.0619281
_IAFTER_1	-2.165584	1.218025	-1.78	0.076	-4.559954	.2287855
_INEWXAFT_1_1	2.753606	1.306607	2.11	0.036	.1851025	5.322109
_cons	23.33117	1.346536	17.33	0.000	20.68417	25.97816

- Which regression model is this?
- Which hypothesis are we testing? Is the regression model adequate to test this hypothesis?
- How can I interpret the results of this regression model?

Mandatory learning objectives(2)

Minimum Wages and Employment:
A Case Study of the Fast-Food Industry
in New Jersey and Pennsylvania

By DAVID CARD AND ALAN B. KRUEGER*

On April 1, 1992, New Jersey's minimum wage rose from $4.25 to $5.05 per hour. To evaluate the impact of the law we surveyed 410 fast-food restaurants in New Jersey and eastern Pennsylvania before and after the rise. Comparisons of employment growth at stores in New Jersey and Pennsylvania (where the minimum wage was constant) provide simple estimates of the effect of the higher minimum wage. We also compare employment changes at stores in New Jersey that were initially paying high wages (above $5) to the changes at lower-wage stores. We find no indication that the rise in the minimum wage reduced employment. (JEL J30, J23)

- The Stata output reported in the previous slide is the main result of a famous scientific article analysing the effect of an increase in the minimum wage

- The results of the article showed that an increase in the minimum wage of $0.80 introduced in 1992 had positive effects on employment in the state of New Jersey

Why is this relevant?

- Since at least the 1980s onward, labor economics has been one of the most prominent fields applying the techniques of counterfactual impact evaluation for several reasons:

  - Most public policies are evaluated by looking (at least in part) at their labor market effects. Thus, there is a high demand of policy evaluations in the field of labor economics.

  - Counterfactual policy evaluations can be used also as a tool to credibly test an assumption derived from theoretical models of the labor market.

  - For example, studying the employment effects of a minimum wage can serve two purposes:
    - Is rising the minimum wage a desirable public policy, or are there unintended effects?
    - Is the competitive labor market model (which predicts negative employment effects associated to a binding minimum wage set above the market clearing rate) appropriate to describe the functioning of real labor markets?

Exam

- **The exam for this part of the course consists of two parts:**
  - <u>Problem set on STATA</u>: you will be given a simple dataset with all the variables needed to apply one of the methods for causal inference that we have discussed in class. You will be asked to run the analysis and interpret the output you get, producing a very short report of your results. This is an open-book exam, the problem set will be sent by e-mail and you will have to hand back the completed report and the do file of your analysis within a limited time window.

  - <u>Presentation</u>: you will be asked to present one paper chosen from a list of published articles in labor economics provided on Moodle. You can work in groups of max. 2 persons. You will be asked to provide a short description of the research question, the empirical strategy adopted and its main assumptions, and the results of the paper. The presentations will be delivered in a seminar during the last class of the course

- **Grading:** weighted average given by 50% for the problem set and 50% for the presentation. The final grade for the entire course will depend on the grade of the theoretical part as well (50%).

Practical info

Sono fortemente raccomandate le seguenti operazioni preliminari:

- Installazione di STATA sul vostro computer:
    - Occorre far richiesta del software con l'apertura di un ticket sul sistema *Service Desk* di UNITO. Più informazioni sono reperibili a questo link:
    - https://www.unito.it/servizi/servizi-line/licenze-software-campus-di-ateneo
- Registrazione sulla pagina Moodle del corso per accedere ai materiali didattici e alle comunicazioni

Materiali/libri di testo:

- per la preparazione sono sufficienti i materiali del corso su Moodle e eventuali risorse ivi indicate
- per eventuali approfondimenti si consiglia la consultazione dei seguenti manuali:

    A.C. Cameron and P.K. Trivedi, *MICROECONOMETRICS USING STATA*, Revised Edition (2010)/Original Edition (2009), Stata Press.

    J.D. Angrist and J.S. Pischke, Mostly Harmless Econometrics: An Empiricist's Companion, Princeton University Press, 2009.

Orari: lunedì h. 16 (3 ore) e martedì h. 14.30 (2 ore). Si consiglia di frequentare le lezioni muniti di PC con software STATA installato.