FGV | SAO PAULO SCHOOL OF ECONOMICS

Syllabus

[cmcd.economia@fgv.br]

Course: Topics in Econometrics

Professor: Carolina Caetano

2022 SECOND QUARTER

COURSE OUTLINE

This course covers some modern identification techniques in reduced form econometric models, also delving into the methods used to estimate these models. It includes an in-depth treatment of the Regression Discontinuity Design, nonparametric instrumental variables methods, semiparametric models, and bunching models. Surrounding the estimation of these models, we will cover nonparametric estimation, both kernel and series-based, 2-step estimation methods, and discretization using machine learning clustering.

PROGRAM

1. Regression Discontinuity Design
2. Nonparametric estimation using kernel methods
3. Nonparametric instrumental variable methods
4. Series based estimation
5. Semiparametric models
6. 2-step estimation methods
7. Bunching models
8. Discretization using machine learning clustering methods

BIBLIOGRAPHY

I provide notes, as well as several papers and excerpts of books which may be mandatory or of interest. If you wish to buy useful reference books in these topics, I recommend:

- Bruce Hansen's Econometrics textbook (available free at https://www.ssc.wisc.edu/~bhansen/econometrics/).
- Cunningham, S. (2021). *Causal Inference*. Yale University Press (also available free at https://mixtape.scunning.com).
- Frölich, M., & Sperlich, S. (2019). *Impact Evaluation: Treatment Effects and Causal Analysis*. Cambridge: Cambridge University Press.
- James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). *An introduction to statistical learning* (Vol. 112, p. 18). New York: Springer (also available free at https://www.statlearning.com).

GRADING

20% class participation
40% homeworks
40% final exam

PROFESSOR – CONTACT

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