Topics in Economics and Finance V (MEF)
Guía docente 2025-26

PRESENTACIÓN

Breve descripción: Policy Evaluation is a comprehensive and dynamic course designed to equip students with the skills and knowledge needed to critically assess the effectiveness, efficiency, and impact of public policies. The course has strong emphasis on leveraging econometric methods to enhance the precision and robustness of policy assessments. This course is designed to provide students with a deep understanding of how econometric techniques can be effectively applied to evaluate the impact and effectiveness of public policies.

- **Titulación**: Master in Economics and Finance
- **Módulo/Materia**: Module II/Matter 2.1. Topics in Economics and Finance
- **ECTS**: 3.5 (87.5 hours of work)
- **Curso, semestre**: Spring, 2024
- **Carácter**:
- **Profesorado**: Anastasia Terskaya
- **Idioma**: English
- **Aula, Horario**: TBD (link to the web)

RESULTADOS DE APRENDIZAJE (Competencias)

Knowledge of econometric techniques used to rigorously evaluate public policy; knowledge of literature on policy evaluation, knowledge of programming using real world data with Stata software; development of critical thinking and problem solving; understanding ethics of policy evaluation.

GENERAL COMPETENCIES

CG1) Train high-level specialists in both economic theory and finance

CG2) Provide students with the appropriate and necessary mathematical and econometric techniques for both theoretical and empirical work in the fields of economic theory and finance.

CG3) Familiarize students with research fields and the most relevant literature in economic theory and finance

CG4) Develop students' critical capacity towards economic or financial phenomena and enhance their communication skills.

CG5) Provide students with the basic theoretical foundations to start doctoral studies in economics or finance.

SPECIFIC COMPETENCIES

CE1) Study the main concepts and techniques of mathematical analysis, probability, and statistics required in the areas of economics and finance.

CE3) Appropriately use econometric techniques employed in the analysis of microeconomic data and in the analysis and modeling of financial time series.

CE4) Handle the main statistical and econometric programs used in the areas of economics and finance.

PROGRAMA

The course will have 13 lecture sessions and 4 practice sessions. Each lecture will last about 60-90 minutes.

Session 1. Introduction:

We start the course by introducing the main questions. Why do we evaluate? What is the difference between correlation and causality? What is a contractual?. We also describe the main problem of policy evaluation and introduce some basic notation.

References:

● Gertler et al. (2016) chapters 1 and 2.

● Bernal and Peña (2011) chapter 1.

● Cunningham (2021) chapter 1.

Session 2. The potential outcome model:

We formally introduce the Roy-Rubin's Potential outcome model which is the core model for the development of the course. Also, we formally define the different impact estimators and the selection bias problem.

References:

● Bernal and Peña (2011) chapter 1.

● Abadie, A. and Cattaneo, M. D. (2018). Econometric methods for program evaluation. Annual Review of Economics, 10:465–503 Recurso online.

● Cunningham (2021) chapter 4.

Sessions 3&4. Randomized experiments (RCT):

Randomized Control Trials (RCT) are considered the gold standard in policy evaluation. Session 3 will focus on estimation, identification and interpretation. Session 4 will focus on implementation and the main problems researchers face in the field.

References:

• Bernal and Pe˜na (2011) chapter 1.

• Gertler et al. (2016) chapters 4.

• Glennerster and Takavarasha (2013) chapters 2 and 4.

Practice Session 1: RCT in practice

Session 5. Difference in difference estimators:

Many times, public policy cannot be randomly implemented. In these cases, differences in outcomes over time may allow for the identification of the causal effect of a given policy. We study the differencein-difference estimator in different scenarios.

References:

• Bernal and Pe˜na (2011) chapter 5.

• Gertler et al. (2016) chapter 7.

• Angrist and Pischke (2009) chapter 5.

• Cunningham (2021) chapter 9.

Session 6. Matching estimators:

Sometimes we can use a sample of individuals without the treatment which can be used as a comparison group, mainly under the assumption that the researcher can observe the individual characteristics that determine participation in a given program. In this session we study matching estimators focusing on identification, estimation and limitations. We also show how matching estimators combine with difference in difference estimators.

References:

• Bernal and Pe˜na (2011) chapter 6.

• Gertler et al. (2016) chapter 8.

Practice Session 2: Estimating diff-in-diff and Matching and IV using real data.

Session 7. Evaluation using IV estimators:

Instrumental variables is a well-known methodology in econometrics for dealing with identification in the case of endogenous variables. In this session we describe how IV allows for the identification of treatment effects, paying attention to the concept of Local Average Treatment Effects (LATE).

References:

• Bernal and Pe˜na (2011) chapter 6.

• Gertler et al. (2016) chapter 7.

• Angrist and Pischke (2009) chapter 4.

Practice Session 3: IV using real data.

Session 8 & 9. Regression Discontinuity Design

Public policy usually uses targeting mechanisms to allocate limited resources. For this reason, RDD evaluations are becoming more popular. In this case, we describe the RDD methodology and focus on studying the conditions in which identifying causal effects is possible.

References:

• Bernal and Pe˜na (2011) chapter 8.

• Gertler et al. (2016) chapter 6.

• Lee, D. S. and Lemieux, T. (2010). Regression discontinuity designs in economics. Journal of economic literature, 48(2):281–355 Recurso online.

• Calonico, S., Cattaneo, M. D., and Titiunik, R. (2014). Robust nonparametric confidence intervals for regression-discontinuity designs. Econometrica, 82(6):2295–2326 Recurso online.

• Angrist, J. D. and Rokkanen, M. (2015). Wanna get away? regression discontinuity estimation of exam school effects away from the cutoff. Journal of the American Statistical Association, 110(512):1331–1344 Find it in the library.

• Cunningham, S. (2021). Causal inference: The mixtape. Yale university press Recurso online.

Session 10. The control function approach:

Control functions are used to explicitly incorporate the decision or participation in a program into the estimations of the program's impact. In this session we describe the CF method, its estimation, and the link between CF and IV.

References:

• Bernal and Pe˜na (2011) chapter 9.

• Blundell and Dias (2009)

Practice Session 4: RDD estimation using real data.

Session 11. Choosing and implementing:

After the revision of the main methodologies in this session we discuss the challenges policy makers and evaluators faced when implementing an evaluation.

References:

• Gertler et al. (2016) chapter 15.

• Glennerster and Takavarasha (2013) chapter 6.

Session 12. Access to data and sample design:

One of the main challenges when implementing an evaluation is access to data. In many cases evaluators need to collect data of a sample of households (beneficiaries and non-beneficiaries) in order to estimate the program's impact. In this session we describe the different methodologies to select a sample and calculate its statistical power.

References:

• Gertler et al. (2016) chapter 15.

• Glennerster and Takavarasha (2013) chapter 6.

Session 13. Latest advances on policy evaluation:

Policy evaluation is a dynamic topic. Policy implementation is changing. We have access to more novel data. Computation techniques allow us to approach reality in new ways. Even the problems we are facing are different. In this session we discuss how academics see the future of policy evaluation and how new techniques may rule this field in the early future.

References:

• Athey, S. and Imbens, G. W. (2017). The state of applied econometrics: Causality and policy

evaluation. Journal of Economic Perspectives, 31(2):3–32 Recurso online.

• Abadie, A. and Cattaneo, M. D. (2018). Econometric methods for program evaluation. Annual

Review of Economics, 10:465–503 Recurso online.

Student Workshop

Each student will have to present one of the following papers in class. Each presentation will last 30 minutes (including questions from the classmates and 5-minute discussion from one of the classmates). Discussants will need to prepare 2-3 interesting questions to ask the presenters. Student Workshop will mimic a standard economic conference.

ACTIVIDADES FORMATIVAS

The course methodology includes theory lectures, discussion of economic papers, learning of Stata programing for policy evaluation, practical sessions (solving problem sets using Stata), and student presentations. Student presentations are individual, however, to each presentation there will be assigned another student as a discussant.

EVALUACIÓN

CONVOCATORIA ORDINARIA

The final grade of the course will have the following components:

1. Problem sets solutions (15%): Problem sets will be graded.
2. Paper presentation (25%): Each student will have to give a 20-minute presentation choosing a paper from a list of relevant articles for the course. The student should accurately describe the article's problems, methods, and results. Each student will be also assigned a presentation of another student for a discussion (5 minutes).
3. Final exam (60%): A take-home exam.

CONVOCATORIA EXTRAORDINARIA

HORARIOS DE ATENCIÓN

By email

BIBLIOGRAFÍA

The class uses mainly academic papers. The references for each session could change. However, the following books helped me to develop the course and are a good source for future studies.

● Angrist, J. D. and Pischke, J.-S. (2009). Mostly harmless econometrics. An empiricist's companion. Princeton University Press

● Bernal, R. and Peña, X. (2011). Gu´ıa pr´actica para la evaluaci´on de impacto. Ediciones Uniandes-Universidad de los Andes (in Spanish)

● Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., and Vermeersch, C. M. (2016). Impact evaluation in practice. The World Bank

● Glennerster, R. and Takavarasha, K. (2013). Running randomized evaluations: A practical guide. Princeton University Press

● Cunningham, S. (2021). Causal inference: The mixtape. Yale university press