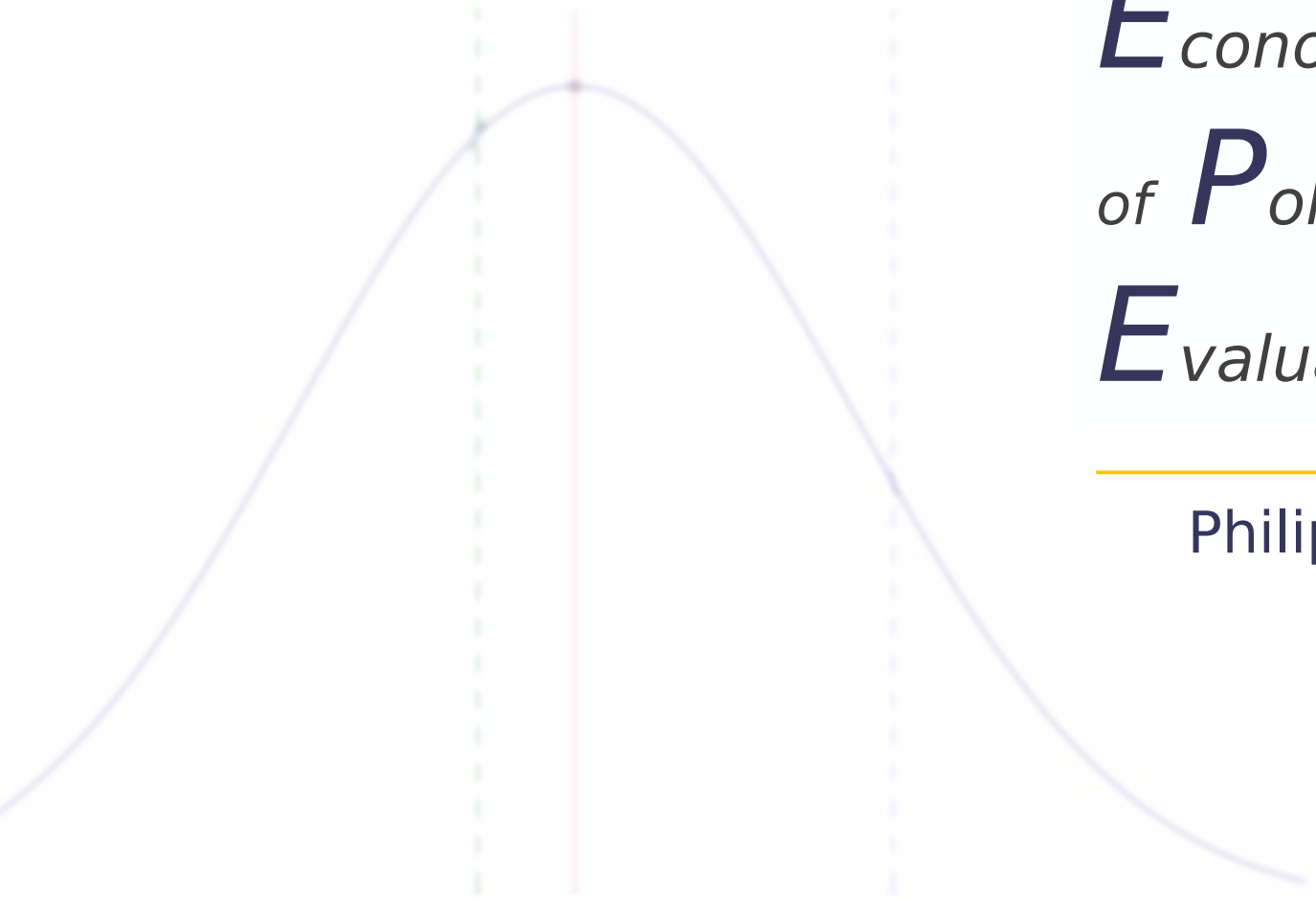

*E*conometrics *of P*olicy *E*valuation

Philipp Eisenhauer

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UNIVERSITÄT BONN

Monte Carlo Exploration

Philipp Eisenhauer

Introduction

The Econometrics of Policy Evaluation

- is important
- is complicated
- is multifaceted

Fundamental Problems

- Evaluation Problem
- Selection problem
  - Essential Heterogeneity

Objects of Interest

- Conventional Average Treatment Effects
- Policy-Relevant Average Treatment Effects
- Local Average Treatment Effect
- Marginal Effect of Treatment
- Distribution of Effects
- Effects on Distribution

Identification Strategies

- Random Assignment
- Matching
- Control Functions and Extensions
- Instrumental Variables

Generalized Roy Model

Potential Outcomes

$$Y_1 = \beta_1 X + U_1$$

$$Y_0 = \beta_0 X + U_0$$

Cost

$$C = \gamma Z + U_C$$

Observed Outcomes

$$Y = DY_1 + (1 - D)Y_0$$

Choice

$$S = Y_1 - Y_0 - C$$

$$D = \mathrm{I}[S > 0]$$

Monte Carlo Exploration

We will touch on all these issues in a Monte Carlo exercise using the **grmpy** package. The notebook is available on the course website.

Appendix

References

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