

Title:

Causal inference and treatment effects using Stata

Contact information

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Presenter

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Description

In this workshop, we discuss methods for drawing causal inferences when analyzing observational rather than experimental data. We present a variety of estimators for average treatment effects (ATEs) and average treatment effects on the treated (ATETs) and discuss when each estimator is useful. Throughout the workshop, we cover the conceptual and theoretical underpinnings of treatment effects and demonstrate the methods with many practical examples worked using Stata software.

After a discussion of the potential-outcome framework and an overview of the parameters estimated, the workshop introduces the following treatment-effect estimators

- o regression-adjustment estimator
- o inverse-probability-weighted (IPW) estimator
- o augmented IPW estimator
- o IPW regression-adjustment estimator
- o nearest-neighbor matching estimator
- o propensity-score matching estimator
- o difference-in-differences (DID)

The course also discusses

- o standard errors and diagnostics for DID estimation
- o double-robustness property of the augmented IPW and IPW regression-adjustment
- o estimators using different functional forms for outcome model and treatment
- o model multivalued treatments
- o estimators when the treatment is endogenous

The discussion of estimators that handle an endogenously assigned treatment includes extended regression model (ERM) estimators, which can also account for other complications in observational data such as endogenous sample selection and endogenous regressors.

All topics are discussed using a combination of theory and Stata examples.

Goals, objectives, and expected outcomes

Participants will learn how to use Stata to obtain causal inference parameters, interpret their results, and obtain diagnostics to validate some of the model assumptions. Participants will also understand the theory behind the methods employed.

Target audience

Anyone interested in causal inference with a background in linear regression

Preferred workshop day

April 06

Proposed duration

1/2 day

Workshop conversion

I would be willing to convert the workshop into a remote workshop if necessary.

A/V needs

Any mechanism to connect my laptop to a projector. A VGA or HDMI adapter.

Short Bio

Enrique Pinzon is the Associate Director of Econometrics at StataCorp. He is on the statistical development team at StataCorp, teaches a variety of Stata courses, and is a frequent contributor to the Stata blog. Pinzon holds a master's degree in economics from the Universidad de los Andes and a PhD from the University of Wisconsin–Madison