Mastering Mostly Harmless 'Metrics

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AGENDA

I. RCT AND REGRESSION RECAP

Why randomize?

Potential outcomes

Why regress?

3 reasons to love
The long and short of regression anatomy; OVB
Casual vs causal

*Regression topic*s

Bad control and measurement error
Limited dependent variables

II. CONDITIONAL INDEPENDENCE ASSUMPTIONS

Matching vs regression

The propensity score

Effects of subsidized training programs on wages
Do we *need* the score?
Market design meets research design

New ways to use the CIA

Synthetic control
Semiparametric DD

III. INSTRUMENTAL VARIABLES

Constant-effects models

IV and omitted variables bias: estimating a "long regression" without controls
2SLS: mastery and mistakes
The Wald estimator and grouped data
Two-sample IV and related methods
2SLS details: mistakes and bias

IV with heterogeneous potential outcomes

Local average treatment effects; Compliers in the treated population
IV in randomized trials
Distribution Treatment Effects
Kappa and QTE

IV topics

Average causal response
Validating VAMs
External validity
Spec tests come LATEr

IV. REGRESSION-DISCONTINUITY DESIGNS

Basics

Sharp and fuzzy RD
Heaps of trouble
Nonpara-'metrics

Frontiers

Kinky RD
Wanna get away?

V. INFERENCE

Review of asymptotic OLS inference

Rules to live by
The bias of robust standard errors

Clustering and serial correlation

Clustering and the Moulton factor
Serial correlation in differences-in-differences models
Fewer than 42 clusters

Randomization Inference

V. MACHINE LABOR

Details TBD