

MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

COLLOQUIUM

Stefan Wager
Stanford University

Treatment Effects in Market Equilibrium

Tuesday, February 15, 2022
4:00 PM - 4:50 PM [Eastern Time](#)
Zoom

Abstract

In evaluating social programs, it is important to measure treatment effects within a market economy, where interference arises due to individuals buying and selling various goods at the prevailing market price. We introduce a stochastic model of potential outcomes in market equilibrium, where the market price is an exposure mapping. We prove that average direct and indirect treatment effects converge to interpretable mean-field treatment effects, and provide estimators for these effects through a unit-level randomized experiment augmented with randomization in prices. We also provide a central limit theorem for the estimators that depends on the sensitivity of outcomes to prices. For a variant where treatments are continuous, we show that the sum of direct and indirect effects converges to the total effect of a marginal policy change. We illustrate the coverage and consistency properties of the estimators in simulations of different interventions in a two-sided market.

Published at <https://arxiv.org/pdf/2109.11647.pdf>

Zoom details can be found at: <https://stt.natsci.msu.edu/stt-colloquium-zoom-info/>

To request an interpreter or other accommodations for people with disabilities, please call the Department of Statistics and Probability at 517-355-9589.