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Ruli Xiao

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Identification and Estimation of Incomplete Information Games with Multiple Equilibria*

Ruli Xiao†

Indiana University

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Abstract

In games, the multiplicity of equilibria poses a challenge for identification and estimation. The existing literature typically abstracts from this multiplicity by assuming that the data are generated from a single equilibrium. Instead of imposing such restrictions, this paper provides sufficient conditions to non-parametrically identify payoff primitives in finite action games with incomplete information, while allowing for multiple equilibria. I then propose a two-step estimator and illustrate its finite-sample performances via Monte Carlo simulations. Furthermore, I study the strategic interaction among radio stations when choosing different time slots to air commercials. I indeed find evidence to support the existence of multiple equilibria.

JEL Classification: C14 ,C57

Keywords: Multiple equilibria, discrete games, measurement error models, non-parametric identification, semi-parametric estimation

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†Department of Economics, Indiana University, 100 S Woodlawn, Bloomington, IN 47405. Email: rulixiao@indiana.edu