

Semiparametric Estimation of Generalized Social Interactions Models under Incomplete Information

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Abstract

In this paper, we consider semiparametric estimation of social interactions models with a known link function, in which one's action is not observable nor precisely predictable to others. For model estimation, assuming that each individual forms his/her belief about the other members' actions based on the heterogeneous rational expectations paradigm (Lee et al., 2014), we propose a nested fixed-point series least squares estimator. We establish that the proposed estimator is both consistent and asymptotically normal. As an empirical illustration, we apply the proposed model and method to the National Longitudinal Study of Adolescent Health (AddHealth) data in order to examine the impacts of friendship interactions on adolescents' academic achievement in math and English courses. The results indicate that the effects of interactions are significant in both subjects.