PETER TOTH

University of Texas at Austin
Department of Economics
2225 Speedway C3100
Austin, TX 78712

cell: 512-998-9868
toth.peter@utexas.edu
sites.google.com/a/utexas.edu/petertoth

EDUCATION

Ph.D. Candidate, Economics, University of Texas at Austin, May 2018 (Expected)
Dissertation Title: *"Essays in Econometrics"*
M.A., Economics, Northwestern University, 2012
M.A., Economics, Central European University, 2011
M.A., International Relations, Corvinus University of Budapest, 2009

REFERENCES

Jason Abrevaya (Chair)
Department of Economics
University of Texas at Austin
512-475-8527
abrevaya@austin.utexas.edu

Sukjin Han
Department of Economics
University of Texas at Austin
512-471-8600
sukjin.han@austin.utexas.edu

Haiqing Xu
Department of Economics
University of Texas at Austin
512-475-8528
h.xu@austin.utexas.edu

TEACHING AND RESEARCH FIELDS

Fields: Econometrics, Industrial Organization
Sub-Fields: Networks, Semiparametrics, Panel data

HONORS, SCHOLARSHIPS AND FELLOWSHIPS

2016-2017	Outstanding Teaching Assistant Award
2016, 2017	Douglas Dacy Fellowship in Economics

RESEARCH EXPERIENCE AND OTHER EMPLOYMENT

2014-2015	Clarity Services Inc, Research Associate
2013	Finalyse Budapest, Consultant

TEACHING EXPERIENCE

Summer, 2017	Instructor for Math Camp (PhD level)
Spring 2017	Teaching Assistant for Times Series Econometrics (MA level)
Fall 2016	Teaching Assistant for Mathematics for Economists, Math Camp, PhD level)
Fall 2014 – Spring2016	Head Teaching Assistant for Statistics for Economics and Introduction to Macroeconomics (undergraduate level)
Spring 2014	Teaching Assistant for Urban Economics (undergraduate level)
Fall 2013	Teaching Assistant for Introduction to Microeconomics (undergraduate level)

PROFESSIONAL ACTIVITIES

Conferences:

2017 October	27th Annual Meeting of the Midwest Econometrics Group, College Station
2017 August	Young Economist Symposium, New Haven
2015 October	25th Annual Meeting of the Midwest Econometrics Group, St. Louis

PUBLICATION

Koren, M. and Toth, P. 2013. The impact of international trade on employment and wages, In *Munkaeropiaci Tukor*, IEHAS, Budapest

WORKING PAPERS

Dissertation Chapters

"Semiparametric estimation in network formation models with homophily and degree heterogeneity" (*Job Market Paper*)

In this paper we identify the ratio of the average partial effects of homophily terms in an extended version of Graham's network formation model with homophily and degree heterogeneity. Our model does not restrict the distribution of unobservables, thereby offering a fully semiparametric approach. The identification strategy is novel, and offers a tool that is useful to define a way of semiparametric double-difference. Our identification argument naturally suggests a consistent estimator based on tetrads of nodes in the network. Given the computational difficulties resulting from having to enumerate every tetrad, we also define a simplified version of the estimator that does not require the full knowledge of the adjacency matrix, and it is still consistent. However, the rate of convergence of this estimator turns out to be non-parametric. Moreover, we identify the fixed effects of the individuals up to the necessary scale and location normalizations, and provide a simple estimator for an individual's unobserved characteristic value. Finally, we give some extensions to the workhorse model that can be treated similarly to our baseline problem.

"Identification and estimation of semiparametric panel data models with large N,T"

This paper introduces the ideas developed in Toth (2017) to semiparametric limited dependent variable panel data models with generalized fixed effects. We give a fully semiparametric identification argument for the linear index binary choice model with 2-way fixed effects. We point out the importance of a high-level orthogonality assumption on the index, which is a severely weakened form of the time homogeneity assumptions used in the literature. Together with the usual regularity assumptions, we are able to extend the class of identified models considerably. For the general model we propose a consistent estimator based on the identification argument, and analyze its asymptotic properties. We provide two further additional applications of the main argument. The first is a non-linear index version of Graham's network formation model, the second example is a setting where the time fixed effects correspond to finitely many possible regimes in the data.

"Identifying power of the Nash assumption in a complete information entry game"

This paper examines the empirical content of the assumption that in a complete information game agents play pure strategy Nash-equilibrium. In particular, we focus on the identification of the strategic interaction effects defined as in Tamer (2003), when they have identical signs for all the players. We assume linear payoff-functions and that the slope parameters are already identified. We find that the Nash-equilibrium assumption restricts the joint density of the unobservables in a way that allows us to make a connection between the underlying identification problem and photo stitching, a well-known question in computer science. In the view of this intuition, some of the earlier results in the literature are reinterpreted, and the main proposition shows how the framework can be used to find sufficient assumptions for identification. The main result of the paper is that strict convexity of at least one upper-or lower-contour set of the unobservables' density implies point identification of the interaction effect. Finally, we define a consistent estimator based on the identification argument.