Andreas Dzemski | Curriculum Vitae

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Research Interests

Field: Econometrics

Topics: Social Networks, Treatment Evaluation

I develop new statistical methods and apply them to problems in *Development* and *Health Economics*.

Education

University of Mannheim	**Mannheim, Germany**
Ph.D. student in Economics	*since 09/2010*
Advisors: Enno Mammen and Markus Frölich	
Yale University	**New Haven, CT, USA**
Visiting student	*09/2008 – 05/2009*
Participation in Ph.D. course program	
University of Mannheim	**Mannheim, Germany**
Diplom Volkswirt	*10/2005 – 10/2010*

Employment

Department of Economics	**University of Mannheim**
Teaching and research assistant	*since 08/2013*
Research group FOR 916 (Statistical Regularization)	**University of Mannheim**
Research fellow	*06/2012 – 05/2013*

References

Enno Mammen (Advisor)	**Markus Frölich** (Advisor)	**Andrea Weber**
Institute for Applied Mathematics	Department of Economics	Department of Economics
University of Heidelberg	University of Mannheim	University of Mannheim
Heidelberg, Germany	Mannheim, Germany	Mannheim, Germany
mammen@math.uni-heidelberg.de	froelich@uni-mannheim.de	a.weber@uni-mannheim.de
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Language and Computer Skills

Languages: English (fluent), German (native), French (basic)

Computer skills: R, Matlab, Stata, Python, C, LaTex, Mathematica, ArcGIS

Awards and Scholarships

09/2014: Reinhard-Selten-Preis (Young Author Best Paper Award, worth €3000) awarded by the German Economic Association (jointly with Florian Sarnetzki)

09/2010 – 05/2012: Landesgraduiertenförderung Baden-Württemberg doctoral student grant

09/2008 – 05/2009: DAAD (German Academic Exchange Service) grant

09/2008 – 05/2009: McKinsey & Company scholarship

2007 – 2008: Deutsche Bank scholarship

Research Papers

An empirical model of dyadic link formation in a network with unobserved heterogeneity
(Job Market Paper)

Abstract: In this paper I present a new model of dyadic link formation for directed networks that extends the classical model by Holland and Leinhardt 1981. Agents are endowed with unobserved effects that govern their ability to establish links (productivity) and to receive links (popularity). The unobserved effects are modelled by a fixed effects approach allowing for arbitrary correlation between the observed homophily component and latent sources of degree heterogeneity. The model can be estimated by conditional ML but inference is non-standard due to the incidental parameters problem (Neyman and Scott 1948). I consider estimation of the parametric part of the linking model as well as estimation of a measure of network transitivity. Moreover, I suggest a specification test for the dyadic model based on predicted transitivity. My approach overcomes the incidental parameters problem by using explicit correction formulas based on an asymptotic approximation that sends the number of agents to infinity. My simulation design suggests promising finite sample performance. A linking model neglecting unobserved sources of degree heterogeneity predicts an insufficient amount of transitivity. This effect is proven for a stylized model and its empirical relevance is confirmed using data on favor networks in Indian villages. In this application, a transitivity statistic changes sign when unobserved agent effects are added. This suggests that, in the real world, unobserved heterogeneity may be a primary driver of local clustering behavior.

Overidentification test in a nonparametric treatment model with unobserved heterogeneity
(with Florian Sarnetzki)
This paper was awarded the German Economic Association's Reinhald-Selten-Preis 2014 (Young Author Best Paper Award).

Abstract: We provide an instrument test for a treatment model in which individuals select into treatment based on unobserved gains (Imbens and Angrist 1994). We augment a standard model by assuming that both a binary and a continuous instrument are available. Under treatment monotonicity a parameter that is closely related to the Marginal Treatment Effect (cf. Heckman and Vytlacil 2005) is overidentified. We suggest a test statistic and characterize its asymptotic distribution and behavior under local alternatives. In simulations, we investigate the validity and finite sample performance of a wild bootstrap procedure. Finally, we illustrate the applicability of our method by studying two instruments from the literature on teenage pregnancies.

Presentations

2014: ZEW Summerworkshop "Advances in Microeconometrics and Program Evaluation"; Econometric Society European Meeting, Louvain-la-Neuve Workshop "Networks in Economics and Finance" (scheduled), European Winter Meeting of the Econometric Society (scheduled)

Professional activities

Refereeing: Statistics
Memberships: Econometric Society

Teaching

Spring 2013/ 2014: Econometrics for math students (undergrad), TA for Enno Mammen (in German)
Fall 2013: Advanced Econometrics I (Ph.D.), TA for Anne Leucht (in English)
Spring 2013: Advanced Econometrics III (Ph.D.), TA for Anne Leucht and Markus Frölich (in English)
Fall 2012: Mathematics for Economists, Ph.D. reading group co-organized with Markus Frölich and Florian Sarnetzki (in English)
Spring 2012: Advanced Econometrics III (Ph.D.), TA for Enno Mammen and Markus Frölich (in English)
Fall 2009: Statistics II (undergrad), TA for Toni Stocker (in German)
(all at University of Mannheim)

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