

MAX H. FARRELL

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Booth School of Business
University of Chicago
5807 South Woodlawn Avenue
Chicago, IL 60637

Phone: 773.834.0161
Email: max.farrell@chicagobooth.edu
Web: <http://faculty.chicagobooth.edu/max.farrell>

Academic Positions

University of Chicago Booth School of Business

Associate Professor of Econometrics and Statistics, July, 2018 – Present.

Assistant Professor of Econometrics and Statistics, 2014 – 2018.

Education

Ph.D. Economics, University of Michigan, 2014.

M.A. Statistics, University of Michigan, 2012.

S.B. Mathematics, Massachusetts Institute of Technology, 2004.

S.B. Economics, Massachusetts Institute of Technology, 2004.

Software

rdrobust: Inference in regression discontinuity designs, for R and Stata [[pdf](#) | [website](#)]

nprobust: Kernel density and local polynomial regression, for R and Stata [[pdf](#) | [website](#)]

lspartition: Partitioning-based least squares regression, for R [[pdf](#) | [website](#)]

Publications

“Regression Discontinuity Designs Using Covariates,” with Sebastian Calonico, Matias Cattaneo, and Rocío Titiunik, *Review of Economics and Statistics*, forthcoming. [[pdf](#)]

“**nprobust**: Nonparametric Kernel-Based Estimation and Robust Bias-Corrected Inference,” with Sebastian Calonico and Matias Cattaneo, *Journal of Statistical Software*, forthcoming. [[pdf](#) | [software](#)]

“On the Effect of Bias Estimation on Coverage Accuracy in Nonparametric Inference,” with Sebastian Calonico and Matias Cattaneo, *Journal of the American Statistical Association*, 113(522), 767–779, 2018. arXiv:1508.02973. [[pdf](#)]

“**rdrobust**: Software for Regression Discontinuity Designs,” with Sebastian Calonico, Matias Cattaneo, and Rocío Titiunik, *Stata Journal*, 17(2), 372–404, 2017. [[pdf](#) | [software](#)]

“Robust Inference on Average Treatment Effects with Possibly More Covariates than Observations,” *Journal of Econometrics*, 189(1), 1–23, November 2015. arXiv:1309.4686. [[pdf](#)]

“Optimal Convergence Rates, Bahadur Representation, and Asymptotic Normality of Partitioning Estimators,” with Matias Cattaneo, *Journal of Econometrics*, 174(2), 127–143, June 2013. [[pdf](#)]

“Efficient Estimation of the Dose Response Function under Ignorability using Subclassification on the Covariates,” with Matias Cattaneo, in *Advances in Econometrics: Missing-Data Methods*, vol. 27A, ed. by D. Drukker, Emerald Group Publishing, 93–127, December 2011. [[pdf](#)]

Working Papers

- “On Binscatter,” with Matias Cattaneo, Richard Crump, and Yingjie Feng, December 2018.
- “Higher-Order Refinements of Small Bandwidth Asymptotics for Kernel-Based Semiparametric Estimators,” with Matias Cattaneo and Michael Jansson, October 2018.
- “Deep Neural Networks for Estimation and Inference: Application to Causal Effects and Other Semiparametric Estimands,” with Tengyuan Liang and Sanjog Misra, December 2018. [[pdf](#)]
- “Optimal Bandwidth Choice for Robust Bias Corrected Inference in Regression Discontinuity Designs,” with Sebastian Calonico and Matias Cattaneo, September 2018. [[pdf](#)]
- “Coverage Error Optimal Confidence Intervals,” with Sebastian Calonico and Matias Cattaneo, August 2018. [[pdf](#)]
- “Characteristic-Sorted Portfolios: Estimation and Inference,” with Matias Cattaneo, Richard Crump, and Ernst Schaumburg, September 2018. [[pdf](#)]
- “Large Sample Properties of Partitioning-Based Series Estimators,” with Matias Cattaneo and Yingjie Feng, December 2018. arXiv:1804.04916. [[pdf](#)]
- “`lspartition`: Partitioning-Based Least Squares Regression,” with Matias Cattaneo and Yingjie Feng, December 2018. [[pdf](#)] [[software](#)]

Professional Activities

- Conference co-organizer, “Interactions: Bringing Together Econometrics and Applied Microeconomics”, University of Chicago, September 15–16, 2017. [[website](#)]
- Editorial Board, *American Journal of Political Science*, 2018 – 2019.
- Referee for: *Advances in Econometrics*, *American Economic Review*, *Annals of Applied Statistics*, *Annals of Statistics*, *Biometrics*, *Biometrika*, *Econometric Reviews*, *Econometric Theory*, *Econometrica*, *Economics Letters*, *Entropy*, *Historical Methods*, *Journal of the American Statistical Association*, *Journal of Applied Econometrics*, *Journal of Business & Economic Statistics*, *Journal of Casual Inference*, *Journal of Econometrics*, *Journal of Political Economy*, *Journal of the Royal Statistical Society Series A*, *Journal of the Royal Statistical Society Series B*, *Operations Research*, *Quantitative Economics*, *Review of Economic Studies*, *Review of Economics and Statistics*, *Scandinavian Journal of Statistics*, *Statistical Science*, the National Science Foundation, and the European Research Council.

Teaching

- University of Chicago Booth School of Business
Applied Regression Analysis (BUS 41100)
- University of Michigan
Introduction to Mathematical Statistics (ECON 405)
Graduate Econometric Analysis II (ECON 672, as TA)
Graduate Econometric Analysis I (ECON 671, as TA)

Presentations & Invited Conferences

- 2019:** UC Berkeley, Stanford.
- 2018:** Conference of the International Association for Applied Econometrics (Montreal), Inference in Non-standard Problems (CEME/NSF, Duke), UC Irvine, UC Los Angeles, UC San Diego, University of Michigan.
- 2017:** ASSA/AEA Meetings (Chicago), Columbia University, Vanderbilt University.
- 2016:** Advances in Econometrics (University of Michigan), Cowles Foundation, Grinnell College, Iowa State, Inference in Nonstandard Problems (CEME/NSF, Duke), Interactions (CEME/NSF, Northwestern), Joint Statistical Meetings.

2015: CREST Statistics, Interactions (CEME/NSF, University of Chicago), London School of Economics, Ohio State University, Toulouse School of Economics, University of Bristol, University College London, University of Wisconsin.

2014: Boston University, University of Chicago, Chicago Booth, Cornell, Cowles Foundation, Harvard Kennedy School, Interactions (CEME/NSF, University of Chicago), Michigan State University, Northwestern, Princeton, Stanford, UC Los Angeles.

2013 & prior: Advances in Econometrics (Southern Methodist University), Causal Inference in Education Research (University of Michigan), Econometric Society North American Summer Meeting (USC), University of Michigan, Midwest Econometrics Group (Indiana University), Notre Dame.

Awards & Honors

Society for Political Methodology's Best Statistical Software Award, 2017.

John E. Jeuck Faculty Fellow, 2016-2017.

Richard N. Rosett Faculty Fellow, 2015-2016.

Lawrence Klein Fellowship, Summer 2014.

Haber Fellowship, Fall 2013.

Rackham Graduate School Dissertation Fellowship, Winter 2013.

Rackham Graduate School Travel Grant: 2011, 2012, & 2013.

National Institute of Aging Graduate Student Traineeship, UofM Population Studies: 2008 & 2009.

Student Abstract Awardee, *Public Health Symposium*, University of Michigan, 2008.

Prior Work Experience

Analyst - Center for Research on Health Care - Data Center, University of Pittsburgh. 2006-2008.

Analyst - Analysis Group, Inc. 2003, 2004-2005.

Older Publications

Bryce C. L., C. H. Chang, D. C. Angus, R. M. Arnold, M. H. Farrell, and M. S. Roberts. (2010) "The effect of race, sex and insurance status on time-to-listing decisions for liver transplantation." *Journal of Transplantation*, vol. 2010, Article ID 467976, 13 pages.

Benzo R., M. H. Farrell, C. H. Chang, et. al. (2010) "Physical Activity, Health status, Anxiety and Risk of Hospitalization in Patients with Severe Chronic Obstructive Pulmonary Disease," *Respiration*, 80, 10-18.

Barnato A.E., C. H. Chang, M. H. Farrell, et. al. (2010) "Is Survival Better at Hospitals with Higher 'End-of-Life' Treatment Intensity?," *Medical Care*, 48, 125-132.

Barnato A.E., M. H. Farrell, C. H. Chang, et. al. (2009) "Development and validation of measures of hospital 'end-of-life' treatment intensity," *Medical Care*, 47, 1098-1105.

Benzo R., M. H. Farrell, C. H. Chang, et. al. (2009) "Integrating health status and survival data: the palliative effect of lung volume reduction surgery," *American Journal of Respiratory and Critical Care Medicine*, 180, 239-246.

Bryce C. L., D. C. Angus, R. M. Arnold, C. H. Chang, M. H. Farrell, et. al. (2009) "Sociodemographic differences in early access to liver transplantation services." *American Journal of Transplantation*, 9, 2092-2101.

Lin C. Y., M. H. Farrell, J. R. Lave, et. al. (2009) "Organizational Determinants of Hospital End-of-Life Treatment Intensity," *Medical Care*, 47, 524-530.

- Rubio, D. M., K. L. Kraemer, M. H. Farrell, and N. L. Day. (2008) "Factors Associated with Alcohol Use, Depression, and Their Co-occurrence during Pregnancy," *Alcoholism: Clinical and Experimental Research*, 32, 1543–1551.
- Nader S., N. Morone, J. E. Bost, and M. H. Farrell, (2008) "Prevalence of Urinary Tract Infection in Childhood: A Meta-Analysis," *The Pediatric Infectious Disease Journal*, 27, 287–375.
- Barnato, A. E., J. E. Bost, M. H. Farrell, J. R. Lave, R. M. Arnold, D. M. Rubio, and D. C. Angus. (2007) "Relationship between staff perceptions of hospital norms and hospital-level end-of-life treatment intensity," *Journal of Palliative Medicine*, 10, 1093–1100.
- Wu, E. Q., P. Mulani, M. H. Farrell, and D. Sleep. (2007) "Mapping FACT-P and EORTC QLQ-C30 to the EQ-5D Health Utility in Metastatic Hormone-Refractory Prostate Cancer Patients," *Value in Health*, 10, 408–414.
- Wu, E. Q., R. Ben-Hamadi, H. Birnbaum, M. H. Farrell, J. Spalding, P. Stang, and K. E. Hartmann. (2006) "Lifetime Costs of Patients with Clinically-Detected Uterine Fibroids: An Employer's Perspective," *Drug Benefit Trends*, 18, 405–410.
- Hartmann, K. E., H. Birnbaum, R. Ben-Hamadi, E. Q. Wu, M. H. Farrell, et. al. (2006) "Annual costs associated with diagnosis of uterine leiomyomata," *Obstetrics and Gynecology*, 108, 930–937.