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| RELEVANT POSITIONS | Robert Wood Johnson Scholar in Health Policy Research, Harvard | 2010-present |
| | Research Assistant to Professor Joshua Angrist | 2007-2008 |
| | Management Consultant, McKinsey & Company | 2004-2006 |

FELLOWSHIPS, HONORS, AND AWARDS

NSF Graduate Research Fellowship
 NSF Doctoral Dissertation Research Improvement Grant (\$15,000), 2009
 MIT Economics Department Graduate Fellowship, 2006-2008
 Best Graduate Teaching Assistant, MIT Economics Department, 2009,2010

PROFESSIONAL ACTIVITIES

Referee:
American Economic Journal: Applied Economics
Journal of Applied Econometrics
Journal of Business & Economic Statistics
Journal of Econometrics
Journal of Human Resources
Journal of Labor Economics
 MIT Press
Review of Economics and Statistics
Quarterly Journal of Economics

Presentations:

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| Econometric Society North American Summer Meetings, Washington University, St. Louis | June 2011 |
| AEA Annual Meetings, Denver | January 2011 |
| Census Research Data Center Annual Conference, University of Maryland | November 2010 |
| NBER Labor Studies Program Meeting, Cambridge, MA | October 2010 |
| Econometric Society World Congress, Shanghai | August 2010 |
| Society of Labor Economists Annual Meetings, University College London | June 2010 |
| Econometric Society North American Summer Meetings, Boston University | June 2009 |
| Society Of Labor Economists Annual Meetings, Cambridge, MA | May 2009 |
| Census Research Data Center Annual Conference, Duke University | October 2008 |

PUBLICATIONS: “Did Vietnam Veterans Get Sicker in the 1990s? The Complicated Effects of Military Service on Self-Reported Health,” *Journal of Public Economics* 94(11-12) December 2010, with Joshua Angrist and Stacey Chen

“Some Variations on Standard Income Measurement Error Models,” *Journal of Income Distribution*, 2004, with James B. McDonald

“Acceleration of Free Electrons in a Symmetric Evanescent Wave,” *Laser Physics*, 2006, with Justin B. Peatross and Scott A. Glasgow

RESEARCH PAPERS: “Why Unions Still Matter: The Effects of Unionization on the Distribution of Employee Earnings” (Job Market Paper)
 This paper estimates the causal effect of unionization on the distribution of employee earnings using a regression discontinuity design that links administrative records on individual earnings to union certification election results. The results suggest unions raise the lower end of the distribution by around 30 log points, with a much smaller effect on the upper tail, and a modest effect on average earnings. Comparing quantile treatment effects with average effects by baseline earnings quantile suggests the distributional effects correspond to individual-level earnings effects that vary by

RESEARCH PAPERS (CONTINUED)

skill. Unionization also appears to reduce employment of the lowest skilled workers. These results are consistent with a model of union wage setting in which unions set wages so as to maximize the probability of certification, subject to a minimum profit constraint for the employer. The optimal union wage schedule pays low-skilled union members above marginal product but reduces the return to skill. The estimates suggest that about one quarter of the increase in the variance of log earnings from 1979 to 2009 can be accounted for by falling U.S. private sector unionization rates, a larger fraction than earlier studies have found.

“Quantile Treatment Effects in the Regression Discontinuity Design” (Revise and Resubmit at *Journal of Econometrics*), with Markus Froelich and Blaise Melly
We introduce a nonparametric estimator for local quantile treatment effects in the regression discontinuity (RD) design. The procedure uses local distribution regression to estimate the marginal distributions of the potential outcomes. The estimator attains the optimal rate of convergence for one-dimensional nonparametric regression and is asymptotically normal. We illustrate the procedure through Monte Carlo simulations and an application on the distributional effects of a universal pre-K program in Oklahoma. We find that participation in a pre-K program significantly raises the lower end and middle of the distribution of test scores.

“Exact inference for a weak instrument, a small sample, or extreme quantiles”

This paper describes a randomization-based inference procedure for the distribution or quantiles of potential outcomes for a binary treatment and instrument. The method imposes no parametric model for the treatment effect, and remains valid for small n , a weak instrument, or inference on tail quantiles, when conventional large-sample methods break down. The method is illustrated using simulations and data from a randomized trial of college student incentives and services.

“The effects of public sector collective bargaining rights”

Widespread public sector unionism emerged only in the 1960s, as individual states opened the door to collective bargaining for state and municipal workers. I exploit differences in timing across states to construct estimates of the causal effects of public sector collective bargaining rights on pay, benefits, and employment for teachers, fire fighters, and police. Perhaps surprisingly, estimates that allow for state fixed effects and state-specific trends show little effect on teachers' pay, hours, benefits, or employment, despite significantly increasing union presence among teachers. For police and fire fighters, however, the results show modest positive effects on pay and benefits.

RESEARCH IN PROGRESS:

“Does Care Fragmentation Lead to Gaps in Care?” with James Rebitzer and Ashish Jha

This research characterizes the degree of fragmentation—defined as multiple caregivers and organizations being involved in the care of a single patient—in the health care of a set of patients covered by a large commercial insurance company, and estimates the effects of that fragmentation on care quality and patient outcomes.

We use an instrumental variables strategy based on regional variation in style of care to deal with potential selection-on-unobservables issues. Our approach is among the first studies examining whether the widely discussed geographic differences in treatment patterns documented in the Medicare population carry over to the commercial insurance population.

**RESEARCH IN
PROGRESS
(CONTINUED)**

“Randomization Inference in the Regression Discontinuity Design” with Matias Cattaneo and Rocio Titiunik

We develop a finite-sample approach to inference in the regression discontinuity design motivated by considering variation in treatment status in the neighborhood of a threshold as approximating a randomized experiment. The approach remains valid even for the very small effective sample sizes common in nonparametric estimation. We specify sufficient conditions for RD designs to be considered as good as randomized experiments, develop estimation and inference procedures, and illustrate the methodology using an example on incumbency advantage in electoral competition.

“Long Term Effects of Military Service on the Distribution of Earnings”

I estimate the long term effect of military service on quantiles of earnings and education using the Vietnam draft lottery eligibility status as an instrument. I compare the local quantile treatment effect estimator studied by Abadie, Angrist, and Imbens (2002) to the instrumental variables quantile regression technique developed by Chernozhukov and Hansen (2008). Ordinary quantile regression shows a large negative association between service in Vietnam and earnings of white men, with the effect increasing in magnitude for the upper quantiles. Quantile treatment effects estimates show the opposite pattern, although much smaller in magnitude, with a small negative effect at the lower end of the distribution, and a small positive effect at the upper end. This suggests the ordinary quantile result is due to heterogeneous selection effects. The two methods of quantile treatment effects estimation give similar results.

“Using Regression Discontinuity to Estimate the Distributional Effects of Educational Interventions,” with Raymond Guiteras

We estimate the quantile treatment effects of widespread remedial education interventions—summer school and grade retention—using two alternative sets of identifying assumptions and estimators. The first requires that the intervention not systematically alter the rank ordering of individuals. The second requires that exceeding the discontinuity threshold have a monotonic effect on treatment status. While the two estimators have different interpretations and require different assumptions, they both suggest that summer school and retention have a greater impact on the higher end of the distribution, conditional on being near the threshold.

“The Political Economy of Union Wage Setting”

This research takes the union’s primary objective to be growth of the union as an institution and the political survival of the union officers. The union’s primary instrument is the wage schedule, while the constraints are the employer’s investment and employment decisions. The optimal union wage schedule is derived as a function of the underlying distribution of workers’ human capital and preferences. Skewness in the distribution of ability as well as employer discretion over merit pay lead to an optimal union wage schedule which depresses the return to productivity with respect to the competitive sector, suggesting a wage-compressing effect of unionization.