Latest Updates on Applied Microeconometrics — A Reading List

February 27, 2022

The motto "Theory and Measurement," first adopted in 1952, succinctly captures the mission of the Cowles Foundation: development and application of rigorous logical, mathematical, and statistical methods of analysis in economics and related fields.

Contents

1 Introduction

1.1 The Concept of Causal Inference in Economics & Econometrics

- Rubin, D. B. (1974). Estimating causal effects of treatments in randomized and nonrandomized studies. *Journal of Educational Psychology, 66*(5), 688.
- Rubin, D. B. (1980). Randomization analysis of experimental data: The Fisher randomization test comment. *Journal of the American statistical association, 75*(371), 591-593.
- Holland, P. W. (1986). Statistics and causal inference. *Journal of the American statistical Association, 81*(396), 945-960.
- Granger, C. W. (1988). Some recent development in a concept of causality. *Journal of econometrics, 39(1-2)*, 199-211.
- Heckman, J. J. (2001). Micro data, heterogeneity, and the evaluation of public policy: Nobel lecture. *Journal of political Economy*, *109*(4), 673-748.
- Heckman, J. J. (2000). Causal parameters and policy analysis in economics: A twentieth century retrospective. *Quarterly Journal of Economics, 115*(1), 45-97.
- Heckman, J. J., & Vytlacil, E. J. (2007). Econometric evaluation of social programs, part I: Causal models, structural models and econometric policy evaluation. *Handbook of econometrics, 6*, 4779-4874.
- Heckman, J. J., & Vytlacil, E. J. (2007). Econometric evaluation of social programs, part II: Using the marginal treatment effect to organize alternative econometric estimators to evaluate social programs, and to forecast their effects in new environments. *Handbook of econometrics, 6*, 4875-5143.
- Imbens, G. W. (2010). Better LATE than nothing: Some comments on Deaton (2009) and Heckman and Urzua (2009). *Journal of Economic literature*, *48*(2), 399-423.
- Deaton, A. (2010). Instruments, randomization, and learning about development. *Journal of economic literature*, *48*(2), 424-55.
- Deaton, A. (2010). Understanding the mechanisms of economic development. *Journal of Economic Perspectives, 24*(3), 3-16.
- Abadie, A., & Cattaneo, M. D. (2018). Econometric methods for program evaluation. *Annual Review of Economics*, *10*, 465-503.
- Mogstad, M., & Torgovitsky, A. (2018). Identification and extrapolation of causal effects with instrumental variables. *Annual Review of Economics*, *10*, 577-613.

1.2 Reduced Form, Structural Method & Sufficient Statistics

- Meyer, B. D. (1995). Natural and quasi-experiments in economics. *Journal of business & economic statistics, 13*(2), 151-161.
- Rosenzweig, M. R., & Wolpin, K. I. (2000). Natural" natural experiments" in economics. *Journal of*

Economic Literature, 38(4), 827-874.

- Angrist, J. D., & Krueger, A. B. (2001). Instrumental variables and the search for identification: From supply and demand to natural experiments. *Journal of Economic perspectives*, *15*(4), 69-85.
- Heckman, J. J., & Vytlacil, E. (2005). Structural equations, treatment effects, and econometric policy evaluation 1. *Econometrica, 73*(3), 669-738.
- Imbens, G. W. (2010). Better LATE than nothing: Some comments on Deaton (2009) and Heckman and Urzua (2009). *Journal of Economic literature*, *48*(2), 399-423.
- Heckman, J. J., & Urzua, S. (2010). Comparing IV with structural models: What simple IV can and cannot identify. *Journal of Econometrics, 156*(1), 27-37.
- Heckman, J. J. (2010). Building bridges between structural and program evaluation approaches to evaluating policy. *Journal of Economic literature*, *48*(2), 356-98.
- Keane, M. P. (2010). Structural vs. atheoretic approaches to econometrics. *Journal of Econometrics, 156*(1), 3-20.
- Chetty, R. (2009). Sufficient statistics for welfare analysis: A bridge between structural and reduced-form methods. *Annu. Rev. Econ.*, *1*(1), 451-488.
- Low, H., & Meghir, C. (2017). The use of structural models in econometrics. *Journal of Economic Perspectives, 31*(2), 33-58.
- Kleven, H. J. (2018). Sufficient statistics revisited. *Annual Review of Economics*, *13*.
- Lee, D. S., Leung, P., O'Leary, C. J., Pei, Z., & Quach, S. (2021). Are sufficient statistics necessary? nonparametric measurement of deadweight loss from unemployment insurance. *Journal of Labor Economics*, *39*(S2), S455-S506.
- Model-Based or Design-Based? Competing Approaches in "Empirical Micro". David Card.
  - Video: https://youtu.be/S6xSEiB6E2s

1.3 Numerous Definitions of Identification in Economics & Econometrics

- Lewbel, A. (2019). The identification zoo: Meanings of identification in econometrics. *Journal of Economic Literature*, *57*(4), 835-903.

2 Randomized Control Trials

2.1 Basics

- Duflo, E., Glennerster, R., & Kremer, M. (2007). Using randomization in development economics research: A toolkit. *Handbook of development economics*, 4, 3895-3962.
- Karlan, D., & Appel, J. (2016). *Failing in the Field.* Princeton University Press.

- Duflo, E., & Banerjee, A. (Eds.). (2017). *Handbook of field experiments*. Elsevier.

2.2 The Latest Updates

- Heckman, J., Hohmann, N., Smith, J., & Khoo, M. (2000). Substitution and dropout bias in social experiments: A study of an influential social experiment. *Quarterly Journal of Economics, 115*(2), 651-694.
- List, J. A., & Rasul, I. (2011). Field experiments in labor economics. In *Handbook of labor economics* (Vol. 4, pp. 103-228). Elsevier.
- List, J. A. (2011). Why economists should conduct field experiments and 14 tips for pulling one off. *Journal of Economic perspectives, 25(3)*, 3-16.
- List, J. A., Sadoff, S., & Wagner, M. (2011). So you want to run an experiment, now what? Some simple rules of thumb for optimal experimental design. *Experimental Economics, 14(4)*, 439-457.
- Al-Ubaydli, O., & List, J. A. (2015). Do natural field experiments afford researchers more or less control than laboratory experiments?. *American Economic Review, 105(5)*, 462-66.
- Maniadis, Z., Tufano, F., & List, J. A. (2015). How to make experimental economics research more reproducible: Lessons from other disciplines and a new proposal. In *Replication in experimental economics*. Emerald Group Publishing Limited.
- Maniadis, Z., Tufano, F., & List, J. A. (2017). To Replicate or Not To Replicate? Exploring Reproducibility in Economics through the Lens of a Model and a Pilot Study. *Economic Journal, 127*(605), F209-F235.
- Al-Ubaydli, O., List, J. A., & Suskind, D. L. (2017). What can we learn from experiments? Understanding the threats to the scalability of experimental results. *American Economic Review, 107*(5), 282-86.
- List, J. A., Shaikh, A. M., & Xu, Y. (2019). Multiple hypothesis testing in experimental economics. *Experimental Economics, 22*(4), 773-793.
- Muralidharan, K., Romero, M., & Wthrich, K. (2019). *Factorial designs, model selection, and (incorrect) inference in randomized experiments* (No. w26562). National Bureau of Economic Research.
- Young, A. (2019). Channeling fisher: Randomization tests and the statistical insignificance of seemingly significant experimental results. *Quarterly Journal of Economics*, *134*(2), 557-598.
- Burlig, F., Preonas, L., & Woerman, M. (2020). Panel data and experimental design. *Journal of Development Economics*, *144*, 102458.
- Deeb, A., & de Chaisemartin, C. (2020). Clustering and External Validity in Randomized Controlled Trials. *Available at SSRN 3630707*.
- Heckman, J. J. (2020). Randomization and Social Policy Evaluation Revisited (No. 12882). IZA Discussion Papers.

- Athey, S., Bickel, P. J., Chen, A., Imbens, G., & Pollmann, M. (2021). *Semiparametric Estimation of Treatment Effects in Randomized Experiments* (No. w29242). National Bureau of Economic Research.
- Gabriel, E. E., Sjlander, A., & Sachs, M. C. (2021). Nonparametric bounds for causal effects in imperfect randomized experiments. *Journal of the American Statistical Association*, 1-9.
- Zhao, A., & Ding, P. (2021). Covariate-adjusted Fisher randomization tests for the average treatment effect. *Journal of Econometrics*.

2.3 Applications

- Angrist, J. D., & Krueger, A. B. (1999). Chapter 23 Empirical strategies in labor economics. In *Handbook of labor economics (Vol. 3, pp. 1277-1366)*. Elsevier.
- Krueger, A. B. (1999). Experimental Estimates of Education Production Functions. T*he Quarterly Journal of Economics*, 114(2), 497-532.
- Katz, L. F., Kling, J. R., & Liebman, J. B. (2001). Moving to opportunity in Boston: Early results of a randomized mobility experiment. *Quarterly Journal of Economics, 116*(2), 607-654.
- Miguel, E., & Kremer, M. (2004). Worms: identifying impacts on education and health in the presence of treatment externalities. *Econometrica*, *72(1)*, 159-217.
- Bertrand, M., & Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *American Economic Review, 94*(4), 991-1013.
- Karlan, D. S. (2005). Using experimental economics to measure social capital and predict financial decisions. *American Economic Review, 95*(5), 1688-1699.
- Cullen, J. B., Jacob, B. A., & Levitt, S. (2006). The effect of school choice on participants: Evidence from randomized lotteries. *Econometrica*, *74(5)*, 1191-1230.
- Karlan, D., & List, J. A. (2007). Does price matter in charitable giving? Evidence from a large-scale natural field experiment. *American Economic Review, 97*(5), 1774-1793.
- Karlan, D. S., & Zinman, J. (2008). Credit elasticities in less-developed economies: Implications for microfinance. *American Economic Review, 98*(3), 1040-68.
- Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., & Topalova, P. (2009). Powerful women: does exposure reduce bias?. *Quarterly Journal of Economics, 124*(4), 1497-1540.
- Karlan, D., & Zinman, J. (2009). Observing unobservables: Identifying information asymmetries with a consumer credit field experiment. *Econometrica, 77*(6), 1993-2008.
- Karlan, D., & Zinman, J. (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. *Review of Financial Studies, 23*(1), 433-464.
- Bertrand, M., Karlan, D., Mullainathan, S., Shafir, E., & Zinman, J. (2010). What's advertising content worth? Evidence from a consumer credit marketing field experiment. *Quarterly Journal of Economics, 125*(1), 263-306.

- Jensen, R. (2010). The (perceived) returns to education and the demand for schooling. *Quarterly Journal of Economics, 125*(2), 515-548.
- Cohen, J., & Dupas, P. (2010). Free distribution or cost-sharing? Evidence from a randomized malaria prevention experiment. *Quarterly Journal of Economics*, 1-45.
- Ashraf, N., Berry, J., & Shapiro, J. M. (2010). Can higher prices stimulate product use? Evidence from a field experiment in Zambia. *American Economic Review, 100*(5), 2383–2413.
- Chetty, R., Friedman, J. N., Hilger, N., Saez, E., Schanzenbach, D. W., & Yagan, D. (2011). How does your kindergarten classroom affect your earnings? Evidence from Project STAR. *Quarterly Journal of Economics, 126*(4), 1593-1660.
- DellaVigna, S., List, J. A., & Malmendier, N. U. (2012). Testing for Altruism and Social Pressure in Charitable Giving Online Appendix. *Quarterly Journal of Economics*.
- Finkelstein, A., Taubman, S., Wright, B., Bernstein, M., Gruber, J., Newhouse, J. P., … & Oregon Health Study Group. (2012). The Oregon health insurance experiment: evidence from the first year. *Quarterly Journal of Economics, 127*(3), 1057-1106.
- Duflo, E., Hanna, R., & Ryan, S. P. (2012). Incentives work: Getting teachers to come to school. *American Economic Review, 102*(4), 1241-78.
- Banerjee, A., Duflo, E., Ghatak, M., & Lafortune, J. (2013). Marry for what? Caste and mate selection in modern India. *American Economic Journal: Microeconomics, 5*(2), 33-72.
- Beaman, L., Karlan, D., Thuysbaert, B., & Udry, C. (2013). Profitability of fertilizer: Experimental evidence from female rice farmers in Mali. *American Economic Review, 103*(3), 381-86.
- Crpon, B., Duflo, E., Gurgand, M., Rathelot, R., & Zamora, P. (2013). Do labor market policies have displacement effects? Evidence from a clustered randomized experiment. *Quarterly Journal of Economics, 128*(2), 531-580.
- Heckman, J., Pinto, R., & Savelyev, P. (2013). Understanding the mechanisms through which an influential early childhood program boosted adult outcomes. *American Economic Review, 103*(6),
- Banerjee, A., Duflo, E., Glennerster, R., & Kinnan, C. (2015). The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics*, 7(1), 22-53.
- Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2015). Does working from home work? Evidence from a Chinese experiment. *Quarterly Journal of Economics, 130*(1), 165-218.
- Chetty, Raj, Nathaniel Hendren, and Lawrence Katz (2016): "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment", *American Economic Review 106*(4): 855-902
- Bowers, J., Higgins, N., Karlan, D., Tulman, S., & Zinman, J. (2017). Challenges to replication and iteration in field experiments: Evidence from two direct mail shots. *American Economic Review, 107*(5), 462-65.
- Bruhn, M., Karlan, D., & Schoar, A. (2018). The impact of consulting services on small and medium

enterprises: Evidence from a randomized trial in Mexico. *Journal of Political Economy, 126*(2), 635-687.

- Armona, L., Fuster, A., & Zafar, B. (2018). Home Price Expectations and Behaviour: Evidence from a Randomized Information Experiment. *Review of Economic Studies.*
- Fischer, G., Karlan, D., McConnell, M., & Raffler, P. (2019). Short-term subsidies and seller type: A health products experiment in Uganda. *Journal of Development Economics, 137*, 110-124.
- Karlan, D., & Zinman, J. (2019). Long-run price elasticities of demand for credit: evidence from a countrywide field experiment in Mexico. *Review of Economic Studies, 86*(4), 1704-1746.
- Banerjee, A., Chandrasekhar, A. G., Duflo, E., & Jackson, M. O. (2019). Using gossips to spread information: Theory and evidence from two randomized controlled trials. *Review of Economic Studies, 86*(6), 2453-2490.
- Bryan, G., Choi, J. J., & Karlan, D. (2021). Randomizing religion: the impact of Protestant evangelism on economic outcomes. *Quarterly Journal of Economics, 136*(1), 293-380.
- Duflo, E. (2020). Field experiments and the practice of policy. *American Economic Review, 110*(7), 1952-73.
- Banerjee, A., Duflo, E., & Qian, N. (2020). On the road: Access to transportation infrastructure and economic growth in China. *Journal of Development Economics, 145*, 102442.
- Kline, P., & Walters, C. (2021). Reasonable Doubt: Experimental Detection of Job-level Employment Discrimination. *Econometrica, 89*(2), 765-792.
- Goldin, J., Lurie, I. Z., & McCubbin, J. (2021). Health insurance and mortality: Experimental evidence from taxpayer outreach. *Quarterly Journal of Economics, 136*(1), 1-49.
- Auriol, E., Lassebie, J., Panin, A., Raiber, E., & Seabright, P. (2020). God insures those who pay? Formal insurance and religious offerings in Ghana. *Quarterly Journal of Economics, 135*(4), 1799-1848.
- Brune, L., Karlan, D., Kurdi, S., & Udry, C. (2022). Social protection amidst social upheaval: Examining the impact of a multi-faceted program for ultra-poor households in Yemen. *Journal of Development Economics, 155*, 102780.

3 Diff-in-Diff & Event Studies

3.1 Basics

- Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates?. *Quarterly Journal of Economics, 119*(1), 249-275.
- Abadie, A. (2005). Semiparametric difference-in-differences estimators. *Review of Economic Studies, 72(1)*, 1-19.
- De Chaisemartin, C., & d'Haultfoeuille, X. (2018). Fuzzy differences-in-differences. *Review of Economic Studies, 85*(2), 999-1028.

3.2 The Latest Updates

- Brewer, M., Crossley, T. F., & Joyce, R. (2018). Inference with difference-in-differences revisited. *Journal of Econometric Methods*, *7*(1).
- Callaway, B., Li, T., & Oka, T. (2018). Quantile treatment effects in difference in differences models under dependence restrictions and with only two time periods. *Journal of Econometrics, 206*(2), 395-413.
- Ferman, B., & Pinto, C. (2019). Inference in differences-in-differences with few treated groups and heteroskedasticity. *Review of Economics and Statistics*, *101*(3), 452-467.
- Freyaldenhoven, S., Hansen, C., & Shapiro, J. M. (2019). Pre-event trends in the panel event-study design. *American Economic Review*, *109*(9), 3307-38.
- Rambachan, A., & Roth, J. (2019). An honest approach to parallel trends. *Unpublished manuscript, Harvard University.[99]*.
- Schmidheiny, K., & Siegloch, S. (2019). On event studies and distributed-lags in two-way fixed effects models: Identification, equivalence, and generalization.
- Callaway, B., & Li, T. (2019). Quantile treatment effects in difference in differences models with panel data. *Quantitative Economics, 10*(4), 1579-1618.
- Roth, J. (2019). Pre-test with caution: Event-study estimates after testing for parallel trends. Department of Economics, Harvard University, Unpublished manuscript.
- Roth, J., & Sant'Anna, P. H. (2020). When Is Parallel Trends Sensitive to Functional Form?. *arXiv preprint arXiv:2010.04814*.
- Sant'Anna, P. H., & Zhao, J. (2020). Doubly robust difference-in-differences estimators. *Journal of Econometrics*, *219*(1), 101-122.
- De Chaisemartin, C., & d'Haultfoeuille, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, *110*(9), 2964-96.
- Olden, A., & Møen, J. (2020). The triple difference estimator. *NHH Dept. of Business and Management Science Discussion Paper*, (2020/1).
- de Chaisemartin, C., & D'Haultfoeuille, X. (2020). Two-way Fixed Effects Regressions with Several Treatments. WP
- Athey, S., & Imbens, G. W. (2021). Design-based analysis in difference-in-differences settings with staggered adoption. *Journal of Econometrics*.
- Arkhangelsky, D., & Imbens, G. W. (2021). *Double-robust identification for causal panel data models* (No. w28364). National Bureau of Economic Research.
- Marcus, M., & Sant'Anna, P. H. (2021). The role of parallel trends in event study settings: An application to environmental economics. *Journal of the Association of Environmental and Resource Economists*, *8*(2), 235-275.
- Sun, L., & Abraham, S. (2021). Estimating dynamic treatment effects in event studies with heterogeneous

treatment effects. *Journal of Econometrics*, *225*(2), 175-199.

- Baker, A., Larcker, D. F., & Wang, C. C. (2021). How Much Should We Trust Staggered Difference-In-Differences Estimates?. *Available at SSRN 3794018*.
- Borusyak, K., Jaravel, X., & Spiess, J. (2021). Revisiting event study designs: Robust and efficient estimation. *arXiv preprint arXiv:2108.12419*.
- Butts, K. (2021). Difference-in-Differences Estimation with Spatial Spillovers. *arXiv preprint arXiv:2105.03737*.
- Callaway, B., & Sant'Anna, P. H. (2021). Difference-in-differences with multiple time periods. *Journal of Econometrics*, *225*(2), 200-230.
- Arkhangelsky, Dmitry, Susan Athey, David A. Hirshberg, Guido W. Imbens, and Stefan Wager. 2021. "Synthetic Difference-in-Differences." *American Economic Review*, 111 (12): 4088-4118.
- Freyaldenhoven, S., Hansen, C., Pérez, J. P., & Shapiro, J. M. (2021). *Visualization, Identification, and Estimation in the Linear Panel Event-Study Design* (No. w29170). National Bureau of Economic Research.
- Gardner, J. Two-stage differences in differences.
- Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*.
- Roth, J., & Sant'Anna, P. H. (2021). Efficient estimation for staggered rollout designs. *arXiv preprint arXiv:2102.01291*.
- Wooldridge, J. (2021). Two-Way Fixed Effects, the Two-Way Mundlak Regression, and Difference-in-Differences Estimators. *Available at SSRN 3906345*.
- de Chaisemartin, C., & D'Haultfœuille, X. (2021). Two-Way Fixed Effects and Differences-in-Differences with Heterogeneous Treatment Effects: A Survey. *Available at SSRN*.
- Callaway, B., Goodman-Bacon, A., & Sant'Anna, P. H. (2021). Difference-in-differences with a continuous treatment. *arXiv preprint arXiv:2107.02637*.
- De Chaisemartin, C., & D'Haultfoeuille, X. (2020). Difference-in-differences estimators of intertemporal treatment effects. *arXiv preprint arXiv:2007.04267*.
- Roth, J., Sant'Anna, P. H., Bilinski, A., & Poe, J. (2022). What's Trending in Difference-in-Differences? A Synthesis of the Recent Econometrics Literature. *arXiv preprint arXiv:2201.01194*.

3.3 Applications

- Card, D. (1990). The impact of the Mariel boatlift on the Miami labor market. *ILR Review, 43*(2), 245-257.
- Card, D., & Krueger, A. B. (1994). Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania. *American Economic Review, 84*(4), 772-793.

- Duflo, E. (2001). Schooling and labor market consequences of school construction in Indonesia: Evidence from an unusual policy experiment. *American Economic Review, 91*(4), 795-813.
- Abadie, A., & Gardeazabal, J. (2003). The economic costs of conflict: A case study of the Basque Country. *American Economic Review, 93*(1), 113-132.
- Autor, D. H. (2003). Outsourcing at will: The contribution of unjust dismissal doctrine to the growth of employment outsourcing. *Journal of labor economics, 21*(1), 1-42.
- Waldinger, F. (2010). Quality matters: The expulsion of professors and the consequences for PhD student outcomes in Nazi Germany. *Journal of Political Economy, 118*(4), 787-831.
- Greenstone, M., Richard Hornbeck, & Enrico Moretti. (2010). Identifying Agglomeration Spillovers: Evidence from Winners and Losers of Large Plant Openings. *Journal of Political Economy, 118*(3), 536–598.
- Li, H., Yi, J., & Zhang, J. (2011). Estimating the effect of the one-child policy on the sex ratio imbalance in China: Identification based on the difference-in-differences. *Demography, 48*(4), 1535-1557.
- Busso, Matias, Jesse Gregory, and Patrick Kline (2013): Assessing the Incidence and Efficiency of a Prominent Place Based Policy, *American Economic Review, 103*, pp. 897-947.
- Autor, D. H., Palmer, C. J., & Pathak, P. A. (2014). Housing market spillovers: Evidence from the end of rent control in Cambridge, Massachusetts. *Journal of Political Economy, 122*(3), 661-717
- Kline, P., & Moretti, E. (2014). Local economic development, agglomeration economies, and the big push: 100 years of evidence from the Tennessee Valley Authority. *Quarterly journal of economics*, *129*(1), 275-331.
- Atkin, D. (2016). Endogenous skill acquisition and export manufacturing in Mexico. *American Economic Review, 106*(8), 2046-85.
- Bai, Y., & Jia, R. (2016). Elite recruitment and political stability: the impact of the abolition of China's civil service exam. *Econometrica, 84*(2), 677-733.
- Dobkin, C., Finkelstein, A., Kluender, R., & Notowidigdo, M. J. (2018). The economic consequences of hospital admissions. *American Economic Review*, *108*(2), 308-52.
- Che, Y., & Zhang, L. (2018). Human capital, technology adoption and firm performance: Impacts of China's higher education expansion in the late 1990s. *Economic Journal, 128*(614), 2282-2320.
- Clemens, M. A., Lewis, E. G., & Postel, H. M. (2018). Immigration restrictions as active labor market policy: Evidence from the mexican bracero exclusion. *American Economic Review, 108*(6), 1468-87.
- Almond, D., Li, H., & Zhang, S. (2019). Land Reform and Sex Selection in China. *Journal of Political Economy, 127*(2), 560–585
- Diamond, R., McQuade, T., & Qian, F. (2019). The effects of rent control expansion on tenants, landlords, and inequality: Evidence from San Francisco. *American Economic Review, 109*(9), 3365-94.
- Kantor, S., & Whalley, A. (2019). Research Proximity and Productivity: Long-Term Evidence from Agriculture. *Journal of Political Economy, 127*(2), 819–854

- Cengiz, D., Dube, A., Lindner, A., & Zipperer, B. (2019). The effect of minimum wages on low-wage jobs. *Quarterly Journal of Economics, 134*(3), 1405-1454.
- Chen, Y., Fan, Z., Gu, X., & Zhou, L. A. (2020). Arrival of young talent: The send-down movement and rural education in china. *American Economic Review, 110*(11), 3393–3430.
- Chari, A., Liu, E. M., Wang, S. Y., & Wang, Y. (2021). Property rights, land misallocation, and agricultural efficiency in China. *Review of Economic Studies, 88*(4), 1831-1862.

4 Regression Discontinuity Design

4.1 Basics

- Hahn, J., Todd, P., & Van der Klaauw, W. (2001). Identification and estimation of treatment effects with a regression-discontinuity design. *Econometrica, 69*(1), 201-209.
- Imbens, G. W., & Lemieux, T. (2008). Regression discontinuity designs: A guide to practice. *Journal of Econometrics, 142*(2), 615-635.
- Lee, D. S. (2008). Randomized experiments from non-random selection in US House elections. *Journal of Econometrics, 142*(2), 675-697.
- McCrary, J. (2008). Manipulation of the running variable in the regression discontinuity design: A density test. *Journal of Econometrics, 142*(2), 698-714.
- Lee, D. S., & Lemieux, T. (2010). Regression discontinuity designs in economics. *Journal of Economic Literature, 48*(2), 281-355.
- Card, D., Lee, D., Pei, Z., & Weber, A. (2012). Nonlinear policy rules and the identification and estimation of causal effects in a generalized regression kink design (No. w18564). National Bureau of Economic Research.
- Imbens, G., & Kalyanaraman, K. (2012). Optimal bandwidth choice for the regression discontinuity estimator. *Review of Economic Studies, 79*(3), 933-959.

4.2 The Latest Updates

- Shen, S., & Zhang, X. (2016). Distributional tests for regression discontinuity: Theory and empirical examples. *Review of Economics and Statistics*, *98*(4), 685-700.
- Arai, Y., & Ichimura, H. (2018). Simultaneous selection of optimal bandwidths for the sharp regression discontinuity estimator. *Quantitative Economics*, *9*(1), 441-482.
- Armstrong, T. B., & Kolesár, M. (2018). Optimal inference in a class of regression models. *Econometrica*, *86*(2), 655-683.

- Canay, I. A., & Kamat, V. (2018). Approximate permutation tests and induced order statistics in the regression discontinuity design. *Review of Economic Studies*, *85*(3), 1577-1608.
- Ganong, P., & Jäger, S. (2018). A permutation test for the regression kink design. *Journal of American Statistical Association*, *113*(522), 494-504.
- Kolesár, M., & Rothe, C. (2018). Inference in regression discontinuity designs with a discrete running variable. *American Economic Review*, *108*(8), 2277-2304.
- Calonico, S., Cattaneo, M. D., Farrell, M. H., & Titiunik, R. (2019). Regression discontinuity designs using covariates. *Review of Economics and Statistics*, *101*(3), 442-451.
- Gelman, A., & Imbens, G. (2019). Why high-order polynomials should not be used in regression discontinuity designs. *Journal of Business & Economic Statistics*, *37*(3), 447-456.
- Hsu, Y. C., & Shen, S. (2019). Testing treatment effect heterogeneity in regression discontinuity designs. *Journal of Econometrics*, *208*(2), 468-486.
- Imbens, G., & Wager, S. (2019). Optimized regression discontinuity designs. *Review of Economics and Statistics*, *101*(2), 264-278.
- Armstrong, T. B., & Kolesár, M. (2020). Simple and honest confidence intervals in nonparametric regression. *Quantitative Economics*, *11*(1), 1-39.
- Bertanha, M., & Imbens, G. W. (2020). External validity in fuzzy regression discontinuity designs. *Journal of Business & Economic Statistics*, *38*(3), 593-612.
- Bugni, F. A., & Canay, I. A. (2021). Testing Continuity of a Density via g-order statistics in the Regression Discontinuity Design. *Journal of Econometrics*, *221*(1), 138-159.
- Calonico, S., Cattaneo, M. D., & Farrell, M. H. (2020). Optimal bandwidth choice for robust bias-corrected inference in regression discontinuity designs. *Econometrics Journal*, *23*(2), 192-210.
- Cattaneo, M. D., Jansson, M., & Ma, X. (2020). Simple local polynomial density estimators. *Journal of the American Statistical Association*, *115*(531), 1449-1455.
- Cattaneo, M. D., Keele, L., Titiunik, R., & Vazquez-Bare, G. (2020). Extrapolating treatment effects in multi-cutoff regression discontinuity designs. *Journal of the American Statistical Association*, 1-12.
- Cattaneo, M. D., & Titiunik, R. (2021). Regression Discontinuity Designs. *arXiv preprint arXiv:2108.09400.*

4.3 Applications

- Card, D., Dobkin, C., & Maestas, N. (2008). The impact of nearly universal insurance coverage on health care utilization: evidence from Medicare. *American Economic Review*, 98(5), 2242-58.
- Urquiola, M., & Verhoogen, E. (2009). Class-size caps, sorting, and the regression-discontinuity design. *American Economic Review*, *99*(1), 179-215.
- Cellini, S. R., Ferreira, F., & Rothstein, J. (2010). The value of school facility investments: Evidence

from a dynamic regression discontinuity design. *Quarterly Journal of Economics, 125*(1), 215-261.

- Fredriksson, P., Ockert, B., & Oosterbeek, H. (2013). Long-Term Effects of Class Size. *Quarterly Journal of Economics*, 249–285.
- Chen, Y., Ebenstein, A., Greenstone, M., & Li, H. (2013). Evidence on the impact of sustained exposure to air pollution on life expectancy from China's Huai River policy. *Proceedings of the National Academy of Sciences, 110*(32), 12936-12941.
- Clark, D., & Martorell, P. (2014). The signaling value of a high school diploma. *Journal of Political Economy*, *122*(2), 282-318.
- Wong, M. (2014). Estimating the distortionary effects of ethnic quotas in Singapore using housing transactions. *Journal of Public Economics*, *115*, 131-145.
- Grembi, V., Nannicini, T., & Troiano, U. (2016). Do fiscal rules matter?. *American Economic Journal: Applied Economics*, 1-30.
- Dell, M., Lane, N., & Querubin, P. (2018). The historical state, local collective action, and economic development in Vietnam. *Econometrica, 86*(6), 2083-2121.
- Fu, C., & Gregory, J. (2019). Estimation of an Equilibrium Model with Externalities: Post-Disaster Neighborhood Rebuilding. *Econometrica, 87*(2), 387–421.
- Ito, K., & Zhang, S. (2020). Willingness to pay for clean air: Evidence from air purifier markets in China. *Journal of Political Economy, 128*(5), 1627–1672.
- Asher, S., & Novosad, P. (2020). Rural roads and local economic development. *American economic review*, *110*(3), 797-823.
- Rose, E. K., & Shem-Tov, Y. (2021). How does incarceration affect reoffending? estimating the dose-response function. *Journal of Political Economy*, *129*(12), 3302-3356.

5 Instrumental Variables

5.1 Basics

- Imbens, G. W., & Angrist, J. D. (1994). Identification and Estimation of Local Average Treatment Effects. *Econometrica, 62*(2), 467-475.
- Bound, J., Jaeger, D. A., & Baker, R. M. (1995). Problems with instrumental variables estimation when the correlation between the instruments and the endogenous explanatory variable is weak. *Journal of the American statistical association, 90*(430), 443-450.
- Angrist, J. D., Imbens, G. W., & Rubin, D. B. (1996). Identification of causal effects using instrumental variables. *Journal of the American statistical Association, 91*(434), 444-455.
- Stock, J. H., Wright, J. H., & Yogo, M. (2002). A survey of weak instruments and weak identification in generalized method of moments. *Journal of Business & Economic Statistics, 20*(4), 518-529.

- Hahn, J., & Hausman, J. (2003). Weak instruments: Diagnosis and cures in empirical econometrics. *American Economic Review, 93*(2), 118-125.

5.2 The Latest Updates

- Brinch, C. N., Mogstad, M., & Wiswall, M. (2017). Beyond LATE with a discrete instrument. *Journal of Political Economy, 125*(4), 985-1039.
- Andrews, I., & Armstrong, T. B. (2017). Unbiased instrumental variables estimation under known first-stage sign. *Quantitative Economics, 8*(2), 479-503.
- Hull, P. (2018). Isolateing: Identifying counterfactual-specific treatment effects with cross-stratum comparisons. *Available at SSRN 2705108.*
- Choi, J., Gu, J., & Shen, S. (2018). Weak-instrument robust inference for two-sample instrumental variables regression. *Journal of Applied Econometrics, 33* (1), 109-125.
- Mogstad, M., & Torgovitsky, A. (2018). Identification and extrapolation of causal effects with instrumental variables. *Annual Review of Economics, 10*, 577-613.
- Evdokimov, K., & Kolesr, M. (2018). Inference in instrumental variable regression analysis with heterogeneous treatment effects. Working paper.
- Heckman, J. J., & Pinto, R. (2018). Unordered monotonicity. *Econometrica, 86*(1), 1-35.
- Mogstad, M., Torgovitsky, A., & Walters, C. R. (2019). The causal interpretation of two-stage least squares with multiple instrumental variables (No. w25691). National Bureau of Economic Research.
- Young, A. (2019). Consistency without inference: Instrumental variables in practical application.
- Andrews, I., Stock, J. H., & Sun, L. (2019). Weak instruments in instrumental variables regression: Theory and practice. *Annual Review of Economics, 11*, 727-753.
- Choi, J., & Shen, S. (2019). Two-sample instrumental-variables regression with potentially weak instruments. *The Stata Journal, 19* (3), 581-597.
- Huntington-Klein, N. (2020). Instruments with Heterogeneous Effects: Bias, Monotonicity, and Localness. *Journal of Causal Inference, 8* (1), 182-208.
- Mogstad, M., Torgovitsky, A., & Walters, C. R. (2020). Policy evaluation with multiple instrumental variables (No. w27546). National Bureau of Economic Research.
- Angrist, J., & Kolesr, M. (2021). One Instrument to Rule Them All: The Bias and Coverage of Just-ID IV (No. w29417). National Bureau of Economic Research.
- Andresen, M. E., & Huber, M. (2021). Instrument-based estimation with binarised treatments: issues and tests for the exclusion restriction. *Econometrics Journal, 24* (3), 536-558.
- Lee, D. S., McCrary, J., Moreira, M. J., & Porter, J. R. (2021). Valid t-ratio Inference for IV (No. w29124). National Bureau of Economic Research.
- Sloczynski, T. (2021). When Should We (Not) Interpret Linear IV Estimands as LATE?.

- Giraitis, L., Kapetanios, G., & Marcellino, M. (2021). Time-varying instrumental variable estimation. *Journal of Econometrics, 224*(2), 394-415.
- Blandhol, C., Bonney, J., Mogstad, M., & Torgovitsky, A. (2022). When is TSLS Actually LATE?. University of Chicago, Becker Friedman Institute for Economics Working Paper, (2022-16).

5.3 Applications

- Angrist, J. D. (1990). Lifetime earnings and the Vietnam era draft lottery: evidence from social security administrative records. *The American Economic Review*, 313-336.
- Angrist, J. and Krueger, A. (1991), Does Compulsory Schooling Attendance Affect Schooling and Earnings? *Quarterly Journal of Economics 106*, 979-1014.
- Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development:An empirical investigation. *American Economic Review, 91*(5), 1369-1401.
- Chay, Kenneth and Michael Greenstone (2005): Does Air Quality Matter? Evidence from the Housing Market, *Journal of Political Economy, v. 113* (2), pp. 376-424.
- Baum-Snow, N. (2007). Did Highways Cause Suburbanization?. *Quarterly Journal of Economics, 122*(2), 775-805.
- Maccini, S., & Yang, D. (2009). Under the weather: Health, schooling, and economic consequences of early-life rainfall. *American Economic Review, 99*(3), 1006-26.
- Carneiro, P., Heckman, J. J., & Vytlacil, E. J. (2011). Estimating marginal returns to education. *American Economic Review, 101*(6), 2754-81.
- Mian, A., and Sufi, A. (2011). House Prices, Home Equity–Based Borrowing, and the US Household Leverage Crisis. *American Economic Review, 101*(5), 2132–2156
- David, H., Dorn, D., & Hanson, G. H. (2013). The China syndrome: Local labor market effects of import competition in the United States. *American Economic Review, 103*(6), 2121-68.
- Kirkeboen, L. J., Leuven, E., & Mogstad, M. (2016). Field of study, earnings, and self-selection. *Quarterly Journal of Economics, 131*(3), 1057-1111.
- Kline, P., & Walters, C. R. (2016). Evaluating public programs with close substitutes: The case of Head Start. *Quarterly Journal of Economics, 131*(4), 1795-1848.
- Barua, R., & Lang, K. (2016). School entry, educational attainment, and quarter of birth: A cautionary tale of a local average treatment effect. *Journal of Human Capital, 10*(3), 347-376.
- Fort, M., Schneeweis, N., & Winter-Ebmer, R. (2016). Is Education Always Reducing Fertility? Evidence from Compulsory Schooling Reforms. *Economic Journal, 126*(595), 1823–1855
- Isen, Adam, Maya Rossin-Slater, and W. Reed Walker (2017): Every Breath You Take – Every Dollar You'll Make: The Long Term Consequences of the Clean Air Act of 1970, *Journal of Political Economy, vol. 125*(3), p. 848:902

- Bettinger, E. P., Fox, L., Loeb, S., & Taylor, E. S. (2017). Virtual classrooms: How online college courses affect student success. *American Economic Review, 107*(9), 2855–2875
- Heller, S. B., Shah, A. K., Guryan, J., Ludwig, J., Mullainathan, S., & Pollack, H. A. (2017). Thinking, fast and slow? Some field experiments to reduce crime and dropout in Chicago. *Quarterly Journal of Economics, 132*(1), 1-54.
- Allcott, H., Keniston, D., (2018). Dutch disease or agglomeration? The local economic effects of natural resource booms in modern America. *Review of Economic Studies 85*, 695–731.
- Chen, T., Kung, J. K. S., & Ma, C. (2020). Long live Keju! The persistent effects of China's civil examination system. *Economic Journal, 130*(631), 2030-2064.

5.4 Shift-share Instruments (Bartik Instruments)

- Topalova, P. (2010). Factor immobility and regional impacts of trade liberalization: Evidence on poverty from India. *American Economic Journal: Applied Economics, 2*(4), 1–41.
- Adao, R., Kolesr, M., & Morales, E. (2019). Shift-share designs: Theory and inference. *Quarterly Journal of Economics*, *134*(4), 1949-2010.
- Borusyak, K., P. Hull, and X. Jaravel (2020). Quasi-Experimental Shift-Share Research Designs. *Review of Economic Studies*
- Borusyak, K., & Hull, P. (2020). *Non-random exposure to exogenous shocks: Theory and applications* (No. w27845). National Bureau of Economic Research.
- Goldsmith-Pinkham, P., Sorkin, I., & Swift, H. (2020). Bartik instruments: What, when, why, and how. *American Economic Review*, *110*(8), 2586-2624.
- Autor, D. H., Dorn, D., & Hanson, G. H. (2013). The China syndrome: Local labor market effects of import competition in the United States. *American Economic Review, 103*(6), 2121-68.
- Imbert, C., Seror, M., Zhang, Y., & Zylberberg, Y. (2018). Migrants and firms: Evidence from china. (AER conditionally accepted)
- Li, B. (2018). Export expansion, skill acquisition and industry specialization: Evidence from China. *Journal of International Economics, 114*, 346-361.
- Autor, D. H., Dorn, D., & Hanson, G. (2019). When work disappears: Manufacturing decline and the falling marriage market value of young men. *American Economic Review: Insights, 1*(2), 161-78.
- de Chaisemartin, C., & Lei, Z. (2021). Are Bartik Regressions Always Robust to Heterogeneous Treatment Effects?. *Available at SSRN 3802200.*

6 Regression & Matching

6.1 Basics

- Rubin, D. B. (1973). Matching to remove bias in observational studies. *Biometrics*, 159-183.
- Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*(1), 41-55.
- Hirano, K., Imbens, G. W., & Ridder, G. (2003). Efficient estimation of average treatment effects using the estimated propensity score. *Econometrica*, *71*(4), 1161-1189.
- Abadie, A., & Imbens, G. W. (2006). Large sample properties of matching estimators for average treatment effects. *econometrica*, *74*(1), 235-267.
- Imbens, G. W. (2004). Nonparametric estimation of average treatment effects under exogeneity: A review. *Review of Economics and statistics*, *86*(1), 4-29.
- Abadie, A., & Imbens, G. W. (2016). Matching on the estimated propensity score. *Econometrica*, *84*(2), 781-807.

6.2 The Latest Updates

- Altonji, J. G., Elder, T. E., & Taber, C. R. (2005). Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools. *Journal of political economy*, *113*(1), 151-184.
- Altonji, J. G., Elder, T. E., & Taber, C. R. (2008). Using selection on observed variables to assess bias from unobservables when evaluating swan-ganz catheterization. *American Economic Review*, *98*(2), 345-50.
- Altonji, J. G., Conley, T., Elder, T. E., & Taber, C. R. (2010). Methods for using selection on observed variables to address selection on unobserved variables.
- Huber, M., Lechner, M., & Wunsch, C. (2013). The performance of estimators based on the propensity score. *Journal of Econometrics*, *175*(1), 1-21.
- Otsu, T., & Rai, Y. (2017). Bootstrap inference of matching estimators for average treatment effects. *Journal of the American Statistical Association*, *112*(520), 1720-1732.
- Adusumilli, K. A. R. U. N. (2018). *Bootstrap inference for propensity score matching*. Working paper.
- Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, *37*(2), 187-204.
- Imai, K., Kim, I. S., & Wang, E. (2019, May). Matching methods for causal inference with time-series cross-sectional data. In *Center for the Study of American Politics| Yale University—ISPS CSAP Quantitative Research Methods Workshop*.
- Ferman, B. (2021). Matching estimators with few treated and many control observations. *Journal of*

Econometrics, *225*(2), 295-307.

- Armstrong, T. B., & Kolesár, M. (2021). Finite-Sample Optimal Estimation and Inference on Average Treatment Effects Under Unconfoundedness. *Econometrica*, *89*(3), 1141-1177.

6.3 Applications

- Angrist, J. (1995). Estimating the labor market impact of voluntary military service using social security data on military applicants.
- Dale, S. B., & Krueger, A. B. (2002). Estimating the payoff to attending a more selective college: An application of selection on observables and unobservables. *Quarterly Journal of Economics, 117*(4), 1491-1527.
- Borge, L. E., & Rattsø, J. (2008). Property taxation as incentive for cost control: Empirical evidence for utility services in Norway. *European Economic Review*, *52*(6), 1035-1054.
- Greenstone, M., Hornbeck, R., & Moretti, E. (2010). Identifying agglomeration spillovers: Evidence from winners and losers of large plant openings. *Journal of Political Economy, 118*(3), 536-598.
- Imbens, G. W. (2015). Matching methods in practice: Three examples. *Journal of Human Resources*, *50*(2), 373-419.
- Griffen, A. S., & Todd, P. E. (2017). Assessing the performance of nonexperimental estimators for evaluating Head Start. *Journal of Labor Economics*, *35*(S1), S7-S63.
- Azoulay, P., Fons-Rosen, C., & Graff Zivin, J. S. (2019). Does science advance one funeral at a time?. *American Economic Review, 109*(8), 2889-2920.

7 Synthetic Control

7.1 Methodology

- Peri, G., & Yasenov, V. (2019). The labor market effects of a refugee wave synthetic control method meets the mariel boatlift. *Journal of Human Resources*, *54*(2), 267-309.
- Botosaru, I., & Ferman, B. (2019). On the role of covariates in the synthetic control method. *Econometrics Journal*, *22*(2), 117-130.
- Abadie, A. (2021). Using synthetic controls: Feasibility, data requirements, and methodological aspects. *Journal of Economic Literature*, *59*(2), 391-425.
- Athey, S., Bayati, M., Doudchenko, N., Imbens, G., & Khosravi, K. (2021). Matrix completion methods for causal panel data models. *Journal of the American Statistical Association*, 1-15.
- Ferman, B., Pinto, C., & Possebom, V. (2020). Cherry picking with synthetic controls. *Journal of Policy Analysis and Management*, *39*(2), 510-532.

- Arkhangelsky, Dmitry, Susan Athey, David A. Hirshberg, Guido W. Imbens, and Stefan Wager. 2021. "Synthetic Difference-in-Differences." *American Economic Review*, 111 (12): 4088-4118.
- Ben-Michael, E., Feller, A., & Rothstein, J. (2021). *Synthetic Controls with Staggered Adoption* (No. w28886). National Bureau of Economic Research.
- Ben-Michael, E., Feller, A., & Rothstein, J. (2021). The augmented synthetic control method. *Journal of the American Statistical Association*, (just-accepted), 1-34.
- Ferman, B., & Pinto, C. (2021). Synthetic controls with imperfect pretreatment fit. *Quantitative Economics*, *12*(4), 1197-1221.
- Chernozhukov, V., Wüthrich, K., & Zhu, Y. (2021). An exact and robust conformal inference method for counterfactual and synthetic controls. *Journal of the American Statistical Association*, 1-16.

7.2 Applications

- Andersson, J. J. (2019). Carbon taxes and CO 2 emissions: Sweden as a case study. *American Economic Journal: Economic Policy*, *11*(4), 1-30.
- Pichler, S., & Ziebarth, N. R. (2020). Labor market effects of US sick pay mandates. *Journal of Human Resources*, *55*(2), 611-659.
- Jessen, J., Schmitz, S., & Waights, S. (2020). Understanding day care enrolment gaps. *Journal of Public Economics*, *190*, 104252.
- Manelici, I., & Pantea, S. (2021). Industrial policy at work: Evidence from Romania's income tax break for workers in IT. *European Economic Review*, *133*, 103674.

8 Topics on Regression Based Causal Model

8.1 P-value, Specification & Transparency

8.1.1 Methodology

- Harvey, A. C., & Collier, P. (1977). Testing for functional misspecification in regression analysis. *Journal of Econometrics, 6*(1), 103-119.
- MacKinnon, J. G. (1992). Model specification tests and artificial regressions. *Journal of Economic Literature, 30*(1), 102-146.
- Maddala, G. S., & Lahiri, K. (1992). Diagnostic checking, model selection, and specification testing. *Introduction to Econometrics*. Macmillan, New York, 465-512.

- Ashenfelter, O., & Greenstone, M. (2004). Estimating the value of a statistical life: The importance of omitted variables and publication bias. *American Economic Review*, *94*(2), 454-460.
- Asteriou, D., & Hall, S. G. (2011). Misspecification: Wrong Regressors, Measurement Errors and Wrong Functional Forms. *Applied Econometrics*, 172-197.
- Athey, S., & Imbens, G. (2015). A measure of robustness to misspecification. *American Economic Review, 105*(5), 476-80.
- Colegrave, N.,& Ruxton, G. D. (2017). Statistical model specification and power: recommendations on the use of test-qualified pooling in analysis of experimental data. *Proceedings of the Royal Society B: Biological Sciences, 284*(1851), 20161850.
- Athey, S., Imbens, G., Pham, T., & Wager, S. (2017). Estimating average treatment effects: Supplementary analyses and remaining challenges. *American Economic Review, 107*(5), 278-81.
- Christensen, G., & Miguel, E. (2018). Transparency, reproducibility, and the credibility of economics research. *Journal of Economic Literature*, *56*(3), 920-80.
- Andrews, I., & Kasy, M. (2019). Identification of and correction for publication bias. *American Economic Review*, *109*(8), 2766-94.
- Brodeur, A., Cook, N., & Heyes, A. (2020). Methods matter: P-hacking and publication bias in causal analysis in economics. *American Economic Review*, *110*(11), 3634-60.
- Blanco-Perez, C., & Brodeur, A. (2020). Publication bias and editorial statement on negative findings. *Economic Journal*, *130*(629), 1226-1247.
- Andrews, I., Gentzkow, M., & Shapiro, J. M. (2020). Transparency in structural research. *Journal of Business & Economic Statistics, 38*(4), 711-722.
- Tamer, E. (2020). Discussion on "Transparency in Structural Research" by I. Andrews, M. Gentkow and J. Shapiro. *Journal of Business & Economic Statistics, 38*(4), 728-730.
- Imbens, Guido W. (2021). "Statistical Significance, **p**-Values, and the Reporting of Uncertainty." *Journal of Economic Perspectives*, 35 (3): 157-74.
- Kasy, M. (2021). Of forking paths and tied hands: Selective publication of findings, and what economists should do about it. *Journal of Economic Perspectives*, *35*(3), 175-92.
- Miguel, E. (2021). Evidence on Research Transparency in Economics. *Journal of Economic Perspectives*, *35*(3), 193-214.

8.1.2 Applications

- Card, D., & Krueger, A. B. (1995). Time-series minimum-wage studies: a meta-analysis. *American Economic Review*, *85*(2), 238-243.
- Gopalan, R., Hamilton, B. H., Kalda, A., & Sovich, D. (2021). State minimum wages, employment, and wage spillovers: Evidence from administrative payroll data. *Journal of Labor Economics, 39*(3),

000-000.

8.2 Resampling Tests: Bootstrap, Permutation & Others

- Fisher, R. A. (1936). Design of experiments. *British Medical Journal*, 1(3923), 554.
- Pitman, E. J. (1937). Significance tests which may be applied to samples from any populations. *Supplement to the Journal of the Royal Statistical Society*, *4*(1), 119-130.
- Efron, B. (1982). *The jackknife, the bootstrap and other resampling plans*. Society for industrial and applied mathematics.
- Mooney, C. Z., Mooney, C. F., Mooney, C. L., Duval, R. D., & Duvall, R. (1993). *Bootstrapping: A nonparametric approach to statistical inference* (No. 95). sage.
- Westfall, P. H., & Young, S. S. (1993). *Resampling-based multiple testing: Examples and methods for p-value adjustment* (Vol. 279). John Wiley & Sons.
- Efron, B., & Tibshirani, R. J. (1994). *An introduction to the bootstrap*. CRC press.
- Cirincione, C., & Gurrieri, G. A. (1997). Research methodology: computer-intensive methods in the social sciences. *Social Science Computer Review*, *15*(1), 83-97.
- Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2008). Bootstrap-based improvements for inference with clustered errors. *Review of Economics and Statistics*, *90*(3), 414-427.
- Chung, E., & Romano, J. P. (2016). Multivariate and multiple permutation tests. *Journal of Econometrics*, *193*(1), 76-91.
- Canay, I. A., & Kamat, V. (2018). Approximate permutation tests and induced order statistics in the regression discontinuity design. *Review of Economic Studies*, *85*(3), 1577-1608.
- Horowitz, J. L. (2019). Bootstrap methods in econometrics. *Annual Review of Economics*, *11*, 193-224.
- Young, A. (2019). Channeling fisher: Randomization tests and the statistical insignificance of seemingly significant experimental results. *The Quarterly Journal of Economics*, *134*(2), 557-598.
- MacKinnon, J. G., & Webb, M. D. (2020). Randomization inference for difference-in-differences with few treated clusters. *Journal of Econometrics*, *218*(2), 435-450.
- Hahn, J., & Liao, Z. (2021). Bootstrap standard error estimates and inference. *Econometrica*, *89*(4), 1963-1977.
- Menzel, K. (2021). Bootstrap With Cluster-Dependence in Two or More Dimensions. *Econometrica*, *89*(5), 2143-2188.
- Chung, E., & Olivares, M. (2021). Permutation test for heterogeneous treatment effects with a nuisance parameter. *Journal of Econometrics*.

8.3 Multiple Hypothesis Testing

8.3.1 Methodology

- Holm, S. (1979). A simple sequentially rejective multiple test procedure. *Scandinavian journal of statistics*, 65-70.
- Simes, R. J. (1986). An improved Bonferroni procedure for multiple tests of significance. *Biometrika*, *73*(3), 751-754.
- Hochberg, Y. (1988). A sharper Bonferroni procedure for multiple tests of significance. *Biometrika*, *75*(4), 800-802.
- Westfall, P. H., & Young, S. S. (1993). *Resampling-based multiple testing: Examples and methods for p-value adjustment* (Vol. 279). John Wiley & Sons.
- Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: a practical and powerful approach to multiple testing. *Journal of the Royal statistical society: series B (Methodological)*, *57*(1), 289-300.
- Bland, J. M., & Altman, D. G. (1995). Multiple significance tests: the Bonferroni method. *Bmj*, *310*(6973), 170.
- Benjamini, Y., & Yekutieli, D. (2001). The control of the false discovery rate in multiple testing under dependency. *Annals of statistics*, 1165-1188.
- Reiner, A., Yekutieli, D., & Benjamini, Y. (2003). Identifying differentially expressed genes using false discovery rate controlling procedures. *Bioinformatics*, *19*(3), 368-375.
- Benjamini, Y., & Yekutieli, D. (2005). False discovery rate–adjusted multiple confidence intervals for selected parameters. *Journal of the American Statistical Association*, *100*(469), 71-81.
- Benjamini, Y., Krieger, A. M., & Yekutieli, D. (2006). Adaptive linear step-up procedures that control the false discovery rate. *Biometrika*, *93*(3), 491-507.
- Anderson, M. L. (2008). Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects. *Journal of the American statistical Association*, *103*(484), 1481-1495.
- Gelman, A., Hill, J., & Yajima, M. (2012). Why we (usually) don't have to worry about multiple comparisons. *Journal of research on educational effectiveness*, *5*(2), 189-211.
- Chen, S. Y., Feng, Z., & Yi, X. (2017). A general introduction to adjustment for multiple comparisons. *Journal of thoracic disease*, *9*(6), 1725.

- Vickerstaff, V., Omar, R. Z., & Ambler, G. (2019). Methods to adjust for multiple comparisons in the analysis and sample size calculation of randomised controlled trials with multiple primary outcomes. *BMC medical research methodology*, *19*(1), 1-13.
- List, J. A., Shaikh, A. M., & Xu, Y. (2019). Multiple hypothesis testing in experimental economics. *Experimental Economics*, *22*(4), 773-793.

8.3.2 Applications

- Chetty, R., Hendren, N., & Katz, L. F. (2016). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment. *American Economic Review*, *106*(4), 855-902.
- Heller, S. B., Shah, A. K., Guryan, J., Ludwig, J., Mullainathan, S., & Pollack, H. A. (2017). Thinking, fast and slow? Some field experiments to reduce crime and dropout in Chicago. *The Quarterly Journal of Economics*, *132*(1), 1-54.

8.4 Clustering

8.4.1 Basics

- Moulton, B. R. (1986). Random group effects and the precision of regression estimates. *Journal of econometrics*, *32*(3), 385-397.
- Arellano, M. (1987). Computing robust standard errors for within-groups estimators. *Oxford bulletin of Economics and Statistics*, *49*(4), 431-434.
- Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates?. *Quarterly journal of economics*, *119*(1), 249-275.

8.4.2 The Latest Updates

- Donald, S. G., & Lang, K. (2007). Inference with difference-in-differences and other panel data. *Review of Economics and Statistics*, *89*(2), 221-233.
- Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2008). Bootstrap-based improvements for inference with clustered errors. *Review of Economics and Statistics*, *90*(3), 414-427.
- Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies*, *22*(1), 435-480.
- Cameron, A. C., Gelbach, J. B., & Miller, D. L. (2011). Robust inference with multiway clustering. *Journal of Business & Economic Statistics*, *29*(2), 238-249.

- Thompson, S. B. (2011). Simple formulas for standard errors that cluster by both firm and time. *Journal of financial Economics*, *99*(1), 1-10.
- Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of human resources*, *50*(2), 317-372.
- Ibragimov, R., & Müller, U. K. (2016). Inference with few heterogeneous clusters. *Review of Economics and Statistics*, *98*(1), 83-96.
- Imbens, G. W., & Kolesar, M. (2016). Robust standard errors in small samples: Some practical advice. *Review of Economics and Statistics*, *98*(4), 701-712.
- Abadie, A., Athey, S., Imbens, G. W., & Wooldridge, J. (2017). *When should you adjust standard errors for clustering?* (No. w24003). National Bureau of Economic Research.
- Pustejovsky, J. E., & Tipton, E. (2018). Small-sample methods for cluster-robust variance estimation and hypothesis testing in fixed effects models. *Journal of Business & Economic Statistics*, *36*(4), 672-683.
- Colella, F., Lalive, R., Sakalli, S. O., & Thoenig, M. (2019). Inference with arbitrary clustering.
- MacKinnon, J. G., & Webb, M. D. (2020). Randomization inference for difference-in-differences with few treated clusters. *Journal of Econometrics*, *218*(2), 435-450.
- Canay, I. A., Santos, A., & Shaikh, A. M. (2021). The wild bootstrap with a "small" number of "large" clusters. *Review of Economics and Statistics*, *103*(2), 346-363.
- Menzel, K. (2021). Bootstrap With Cluster-Dependence in Two or More Dimensions. *Econometrica*, *89*(5), 2143-2188.
- Hwang, J. (2021). Simple and trustworthy cluster-robust GMM inference. *Journal of Econometrics*, *222*(2), 993-1023.

8.4.3 Applications

- Krueger, A. B. (1999). Experimental estimates of education production functions. *Quarterly Journal of Economics*, *114*(2), 497-532.
- Duflo, E., Dupas, P., & Kremer, M. (2011). Peer effects, teacher incentives, and the impact of tracking: Evidence from a randomized evaluation in Kenya. *American Economic Review*, *101*(5), 1739-74.

9 Decomposition

9.1 Basics

- Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic Review*, 693-709.

- Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human resources*, 436-455.
- Juhn, C., Murphy, K. M., & Pierce, B. (1993). Wage inequality and the rise in returns to skill. *Journal of political Economy*, *101*(3), 410-442.
- Oaxaca, R. L., & Ransom, M. R. (1994). On discrimination and the decomposition of wage differentials. *Journal of Econometrics*, *61*(1), 5-21.
- DiNardo, J., Fortin, N. M., & Lemieux, T. (1996). Labor Market Institutions and the Distribution of Wages, 1973-1992: A Semiparametric Approach. *Econometrica*, *64*(5), 1001-1044.
- Abowd, J. M., Kramarz, F., & Margolis, D. N. (1999). High wage workers and high wage firms. *Econometrica*, *67*(2), 251-333.
- Oaxaca, R. L., & Ransom, M. R. (1999). Identification in detailed wage decompositions. *Review of Economics and Statistics*, *81*(1), 154-157.
- Horrace, W. C., & Oaxaca, R. L. (2001). Inter-industry wage differentials and the gender wage gap: An identification problem. *ILR Review*, *54*(3), 611-618.
- Abowd, J. M., Creecy, R. H., & Kramarz, F. (2002). *Computing person and firm effects using linked longitudinal employer-employee data* (No. 2002-06). Center for Economic Studies, US Census Bureau.
- Abowd, J. M., Lengermann, P., & McKinney, K. L. (2003). *The measurement of human capital in the US economy*. Technical Report TP-2002-09, LEHD, US Census Bureau.
- Andrews, M. J., Gill, L., Schank, T., & Upward, R. (2008). High wage workers and low wage firms: negative assortative matching or limited mobility bias?. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, *171*(3), 673-697.

9.2 The Latest Updates & Applications

- Boden, L. I., & Galizzi, M. (2003). Income losses of women and men injured at work. *Journal of Human Resources*, *38*(3), 722-757.
- Machado, J. A., & Mata, J. (2005). Counterfactual decomposition of changes in wage distributions using quantile regression. *Journal of applied Econometrics*, *20*(4), 445-465.
- Firpo, S., Fortin, N., & Lemieux, T. (2007). Decomposing wage distributions using recentered influence function regressions. *University of British Columbia (June)*.
- Kline, P. (2011). Oaxaca-Blinder as a reweighting estimator. *American Economic Review*, *101*(3), 532-37.
- Bauer, T. K., & Sinning, M. (2008). An extension of the Blinder–Oaxaca decomposition to nonlinear models. *AStA Advances in Statistical Analysis*, *92*(2), 197-206.

- Firpo, S., Fortin, N. M., & Lemieux, T. (2009). Unconditional quantile regressions. *Econometrica*, *77*(3), 953-973.
- Chernozhukov, V., Fernández-Val, I., & Melly, B. (2013). Inference on counterfactual distributions. *Econometrica*, *81*(6), 2205-2268.
- Gelbach, J. B. (2016). When do covariates matter? And which ones, and how much?. *Journal of Labor Economics*, *34*(2), 509-543.
- Fortin, N. M. (2008). The gender wage gap among young adults in the united states the importance of money versus people. *Journal of Human Resources*, *43*(4), 884-918.
- Fortin, N., Lemieux, T., & Firpo, S. (2011). Decomposition methods in economics. In *Handbook of labor economics* (Vol. 4, pp. 1-102). Elsevier.
- Card, D., Heining, J., & Kline, P. (2013). Workplace heterogeneity and the rise of West German wage inequality. *Quarterly Journal of Economics*, *128*(3), 967-1015.
- Fortin, N. M., Oreopoulos, P., & Phipps, S. (2015). Leaving boys behind gender disparities in high academic achievement. *Journal of Human Resources*, *50*(3), 549-579.
- Card, D., Cardoso, A. R., & Kline, P. (2016). Bargaining, sorting, and the gender wage gap: Quantifying the impact of firms on the relative pay of women. *Quarterly Journal of Economics*, *131*(2), 633-686.
- Goldschmidt, D., & Schmieder, J. F. (2017). The rise of domestic outsourcing and the evolution of the German wage structure. *Quarterly Journal of Economics*, *132*(3), 1165-1217.
- Gerard, F., Lagos, L., Severnini, E., & Card, D. (2018). *Assortative matching or exclusionary hiring? The impact of firm policies on racial wage differences in Brazil* (No. w25176). National Bureau of Economic Research.
- Lachowska, M., Mas, A., Saggio, R. D., & Woodbury, S. A. (2020). *Do firm effects drift? Evidence from Washington administrative data* (No. w26653). National Bureau of Economic Research.
- Chetty, R., Hendren, N., Jones, M. R., & Porter, S. R. (2020). Race and economic opportunity in the United States: An intergenerational perspective. *Quarterly Journal of Economics*, *135*(2), 711-783.
- Słoczyński, T. (2020). Average gaps and Oaxaca–Blinder decompositions: A cautionary tale about regression estimates of racial differences in labor market outcomes. *ILR Review*, *73*(3), 705-729.
- Kline, P., Saggio, R., & Sølvsten, M. (2020). Leave-out estimation of variance components. *Econometrica*, *88*(5), 1859-1898.
- Guo, K., & Basse, G. (2021). The generalized oaxaca-blinder estimator. *Journal of the American Statistical Association*, (just-accepted), 1-35.

10 Selection Model

10.1 Basics

- Heckman, J. J. (1976). The common structure of statistical models of truncation, sample selection and limited dependent variables and a simple estimator for such models. In *Annals of economic and social measurement*, volume 5, number 4 (pp. 475-492). NBER.
- Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica: Journal of the econometric society*, 153-161.
- Heckman, J. J., & Vytlacil, E. J. (1999). Local instrumental variables and latent variable models for identifying and bounding treatment effects. *Proceedings of the national Academy of Sciences, 96*(8), 4730-4734.
- Vytlacil, E. (2002). Independence, monotonicity and latent index models: an equivalence result. *Econometrica 70*(1).
- Heckman, J., Urzua, S., and Vytlacil, E. (2006). Understanding instrumental variables in models with essential heterogeneity. *Review of Economics and Statistics 88*(3).

10.2 The Latest Updates

- Heckman, J., & Navarro-Lozano, S. (2004). Using matching, instrumental variables, and control functions to estimate economic choice models. *Review of Economics and Statistics, 86*(1), 30-57.
- Heckman, J., and Vytlacil, E. (2005). Structural equations, treatment effects, and econometric policy evaluation. *Econometrica 73*(3).
- Carneiro, P., Heckman, J. J., & Vytlacil, E. (2010). Evaluating marginal policy changes and the average effect of treatment for individuals at the margin. *Econometrica, 78*(1), 377-394.
- Gautier, E., & Hoderlein, S. (2011). A triangular treatment effect model with random coefficients in the selection equation. *arXiv preprint arXiv:1109.0362*.
- Brinch, C. N., Mogstad, M., & Wiswall, M. (2017). Beyond LATE with a discrete instrument. *Journal of Political Economy, 125*(4), 985-1039.
- Heckman, J. J., & Pinto, R. (2018). Unordered monotonicity. *Econometrica*, *86*(1), 1-35.
- Lee, S., & Salanié, B. (2018). Identifying effects of multivalued treatments. *Econometrica, 86*(6), 1939-1963.
- Kline, P., & Walters, C. R. (2019). On Heckits, LATE, and numerical equivalence. *Econometrica, 87*(2), 677-696.

10.3 Applications

- Heckman, J. (1974). Shadow prices, market wages, and labor supply. *Econometrica: journal of the econometric society*, 679-694.
- Heckman, J. J., & Sedlacek, G. (1985). Heterogeneity, aggregation, and market wage functions: an empirical model of self-selection in the labor market. *Journal of Political Economy, 93*(6), 1077-1125.
- Aakvik, A., Heckman, J. J., & Vytlacil, E. J. (2005). Estimating treatment effects for discrete outcomes when responses to treatment vary: an application to Norwegian vocational rehabilitation programs. *Journal of Econometrics, 125*(1-2), 15-51.
- Madden, D. (2008). Sample selection versus two-part models revisited: The case of female smoking and drinking. *Journal of Health Economics, 27*(2), 300-307.
- Hussinger, K. (2008). R&D and subsidies at the firm level: An application of parametric and semiparametric two-step selection models. *Journal of Applied Econometrics, 23*(6), 729-747.
- Carneiro, P., & Lee, S. (2009). Estimating distributions of potential outcomes using local instrumental variables with an application to changes in college enrollment and wage inequality. *Journal of Econometrics, 149*(2), 191-208.

11 High-dimensional Causal Model

11.1 Methodology

- Maathuis, M. H., Kalisch, M., & Bühlmann, P. (2009). Estimating high-dimensional intervention effects from observational data. *Annals of Statistics*, *37*(6A), 3133-3164.
- Belloni, A., Chernozhukov, V., & Hansen, C. (2014). Inference on treatment effects after selection among high-dimensional controls. *Review of Economic Studies*, *81*(2), 608-650.
- Belloni, A., Chernozhukov, V., & Hansen, C. (2014). High-dimensional methods and inference on structural and treatment effects. *Journal of Economic Perspectives*, *28*(2), 29-50.
- Athey, S., & Imbens, G. (2016). Recursive partitioning for heterogeneous causal effects. Proceedings of the National Academy of Sciences, 113(27), 7353-7360.
- Belloni, A., Chernozhukov, V., Fernández-Val, I., & Hansen, C. (2017). Program evaluation and causal inference with high-dimensional data. *Econometrica*, *85*(1), 233-298.
- Cattaneo, M. D., Jansson, M., & Newey, W. K. (2018). Inference in linear regression models with many covariates and heteroscedasticity. *Journal of the American Statistical Association*, *113*(523), 1350-1361.
- Chernozhukov, V., Chetverikov, D., Demirer, M., Duflo, E., Hansen, C., Newey, W., & Robins, J. (2018). Double/debiased machine learning for treatment and structural parameters.
- Fernández-Val, I., & Weidner, M. (2018). Fixed effects estimation of large-T panel data models. *Annual*

Review of Economics, *10*, 109-138.

- Wager, S., & Athey, S. (2018). Estimation and inference of heterogeneous treatment effects using random forests. Journal of the American Statistical Association, 113(523), 1228-1242.
- Cattaneo, M. D., Jansson, M., & Ma, X. (2019). Two-step estimation and inference with possibly many included covariates. *Review of Economic Studies*, *86*(3), 1095-1122.
- Chernozhukov, V., Chetverikov, D., & Kato, K. (2019). Inference on causal and structural parameters using many moment inequalities. *Review of Economic Studies*, *86*(5), 1867-1900.
- Kline, P., Saggio, R., & Sølvsten, M. (2020). Leave-out estimation of variance components. *Econometrica*, *88*(5), 1859-1898.
- Bradic, J., Ji, W., & Zhang, Y. (2021). High-dimensional Inference for Dynamic Treatment Effects. *arXiv preprint arXiv:2110.04924*.

11.2 Applications

- Gerard, F., Lagos, L., Severnini, E., & Card, D. (2021). Assortative matching or exclusionary hiring? the impact of employment and pay policies on racial wage differences in brazil. *American Economic Review*, *111*(10), 3418-57.

12 Bunching

12.1 Basics

- Saez, E. (2010). Do taxpayers bunch at kink points?. *American economic Journal: economic policy*, *2*(3), 180-212.
- Chetty, R., Friedman, J. N., Olsen, T., & Pistaferri, L. (2011). Adjustment costs, firm responses, and micro vs. macro labor supply elasticities: Evidence from Danish tax records. *Quarterly Journal of Qconomics*, *126*(2), 749-804.
- Kleven, H. J., & Waseem, M. (2013). Using notches to uncover optimization frictions and structural elasticities: Theory and evidence from Pakistan. *Quarterly Journal of Economics*, *128*(2), 669-723.
- Kleven, H. J. (2016). Bunching. *Annual Review of Economics*, *8*, 435-464.

12.2 The Latest Updates

- Einav, L., Finkelstein, A., & Schrimpf, P. (2017). Bunching at the kink: implications for spending responses to health insurance contracts. *Journal of Public Economics*, *146*, 27-40.
- Marx, B. M. (2018). Dynamic Bunching Estimation with Panel Data.

- Caetano, C., Caetano, G., & Nelson, E. (2020). Correcting for Endogeneity in Models with Bunching.
- Gelber, A. M., Jones, D., & Sacks, D. W. (2020). Estimating adjustment frictions using nonlinear budget sets: Method and evidence from the earnings test. *American Economic Journal: Applied Economics*, *12*(1), 1-31.
- Caetano, C., Caetano, G., Fe, H., & Nielsen, E. R. (2021). A Dummy Test of Identification in Models with Bunching.
- Blomquist, S., Newey, W. K., Kumar, A., & Liang, C. Y. (2021). On bunching and identification of the taxable income elasticity. *Journal of Political Economy*, *129*(8), 000-000.
- Bertanha, M., McCallum, A. H., & Seegert, N. (2021). Better bunching, nicer notching. *arXiv preprint arXiv:2101.01170*.

12.3 Applications

- Le Maire, D., & Schjerning, B. (2013). Tax bunching, income shifting and self-employment. *Journal of Public Economics*, *107*, 1-18.
- Bastani, S., & Selin, H. (2014). Bunching and non-bunching at kink points of the Swedish tax schedule. *Journal of Public Economics*, *109*, 36-49.
- Asatryan, Z., & Peichl, A. (2017). Responses of firms to tax, administrative and accounting rules: Evidence from Armenia.
- Seim, D. (2017). Behavioral responses to wealth taxes: Evidence from Sweden. *American Economic Journal: Economic Policy*, *9*(4), 395-421.
- Bachas, P. J., & Soto, M. (2018). Not (ch) your average tax system: corporate taxation under weak enforcement. *World Bank Policy Research Working Paper*, (8524).
- Gelber, A. M., Jones, D., & Sacks, D. W. (2020). Estimating adjustment frictions using nonlinear budget sets: Method and evidence from the earnings test. *American Economic Journal: Applied Economics*, *12*(1), 1-31.
- Chen, Z., Liu, Z., Suárez Serrato, J. C., & Xu, D. Y. (2021). Notching R&D investment with corporate income tax cuts in China. *American Economic Review*, *111*(7), 2065-2100.
- He, D., Peng, L., & Wang, X. (2021). Understanding the elasticity of taxable income: A tale of two approaches. *Journal of Public Economics*, *197*, 104375.

13 Directed Acyclic Graphs

- Pearl, J. (2009). Causality. Cambridge university press.
- Glymour, M., Pearl, J., & Jewell, N. P. (2016). *Causal inference in statistics: A primer*. John Wiley & Sons.

- Pearl, J. (2018). Does obesity shorten life? Or is it the soda? On non-manipulable causes. *Journal of Causal Inference, 6*(2).
- Pearl, J., & Mackenzie, D. (2018). *The book of why: the new science of cause and effect*. Basic books.
- Rohrer, J. M. (2018). Thinking clearly about correlations and causation: Graphical causal models for observational data. *Advances in Methods and Practices in Psychological Science, 1*(1), 27-42.
- Pearl, J. (2019). The seven tools of causal inference, with reflections on machine learning. *Communications of the ACM, 62*(3), 54-60.
- Imbens, G. W. (2020). Potential outcome and directed acyclic graph approaches to causality: Relevance for empirical practice in economics. *Journal of Economic Literature, 58*(4), 1129-79.
- A Slides of Brady Neal

14 Identification for Structural Estimation

- Andrews, I., Gentzkow, M., & Shapiro, J. M. (2017). Measuring the sensitivity of parameter estimates to estimation moments. *The Quarterly Journal of Economics*, *132*(4), 1553-1592.
- Andrews, I., Gentzkow, M., & Shapiro, J. M. (2020). On the informativeness of descriptive statistics for structural estimates. *Econometrica*, *88*(6), 2231-2258.
- Andrews, I., Gentzkow, M., & Shapiro, J. M. (2020). Transparency in structural research. *Journal of Business & Economic Statistics*, *38*(4), 711-722.