

# Microeconometrics

## ä reading list

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## 1 Introduction

- Imbens, G. W. and Wooldridge, J. M. (2009). Recent developments in the econometrics of program evaluation. *Journal of Economic Literature*, 47(1)
- Angrist, J. D. and Pischke, J.-S. (2010). The credibility revolution in empirical economics: How better research design is taking the con out of econometrics. *Journal of Economic Perspectives*, 24(2)
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- Athey, S. and Imbens, G. W. (2017b). The state of applied econometrics: Causality and policy evaluation. *Journal of Economic Perspectives*, 31(2)
- Abadie, A. and Cattaneo, M. D. (2018). Econometric methods for program evaluation. *Annual Review of Economics*, 10(1)
- Athey, S. and Imbens, G. W. (2019). Machine learning methods that economists should know about. *Annual Review of Economics*, 11(1)
- 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)

## 2 Causal Graph

- Pearl, J. (1995). Causal diagrams for empirical research. *Biometrika*, 82(4)

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- Spirtes, P. (2010). Introduction to causal inference. *Journal of Machine Learning Research*, 11(54)
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### 3 Randomized Experiment

#### Method

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- Kasy, M. (2016). Why experimenters might not always want to randomize, and what they could do instead. *Political Analysis*, 24(3)
- Wager, S., Du, W., Taylor, J., and Tibshirani, R. J. (2016). High-dimensional regression adjustments in randomized experiments. *Proceedings of the National Academy of Sciences*, 113(45)
- Athey, S. and Imbens, G. W. (2017a). The econometrics of randomized experiments. In Banerjee, A. V. and Duflo, E., editors, *Handbook of Economic Field Experiments*, volume 1 of *Handbook of Field Experiments*
- Deaton, A. and Cartwright, N. (2018). Understanding and misunderstanding randomized controlled trials. *Social Science & Medicine*, 210
- Kasy, M. and Sautmann, A. (2021). Adaptive treatment assignment in experiments for policy choice. *Econometrica*, 89(1)

## Application

- LaLonde, R. J. (1986). Evaluating the econometric evaluations of training programs with experimental data. *American Economic Review*, 76(4)
- Krueger, A. B. (1999). Experimental estimates of education production functions. *The Quarterly Journal of Economics*, 114(2)
- Sacerdote, B. (2001). Peer effects with random assignment: Results for dartmouth roommates. *The Quarterly Journal of Economics*, 116(2)
- Bertrand, M. and 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)
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- Crepon, B., Duflo, E., Gurgand, M., Rathelot, R., and Zamora, P. (2013). Do labor market policies have displacement effects? evidence from a clustered randomized experiment. *The Quarterly Journal of Economics*, 128(2)
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## 4 Treatment Effects under Unconfoundedness

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- Chernozhukov, V., Chetverikov, D., Demirer, M., Duflo, E., Hansen, C., and Newey, W. (2017). Double/debiased/neyman machine learning of treatment effects. *American Economic Review*, 107(5)
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## 5 Heterogeneous Treatment Effects

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- Scornet, E., Biau, G., and Vert, J.-P. (2015). Consistency of random forests. *The Annals of Statistics*, 43(4)
- Athey, S. and Imbens, G. (2016). Recursive partitioning for heterogeneous causal effects. *Proceedings of the National Academy of Sciences*, 113(27)
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- Oprescu, M., Syrgkanis, V., and Wu, Z. S. (2019). Orthogonal random forest for causal inference. *36th International Conference on Machine Learning, ICML 2019*
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## 6 High-dimensional Methods

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- Fan, J. and Li, R. (2001). Variable selection via nonconcave penalized likelihood and its oracle properties. *Journal of the American Statistical Association*, 96(456)
- Zou, H. (2006). The adaptive lasso and its oracle properties. *Journal of the American Statistical Association*, 101(476)
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- Belloni, A. and Chernozhukov, V. (2013). Least squares after model selection in high-dimensional sparse models. *Bernoulli*, 19(2)
- Zhang, C.-H. and Zhang, S. S. (2014). Confidence intervals for low dimensional parameters in high dimensional linear models. *Journal of the Royal Statistical Society. Series B (Statistical Methodology)*, 76(1)
- Belloni, A., Chernozhukov, V., and Hansen, C. (2014a). High-dimensional methods and inference on structural and treatment effects. *Journal of Economic Perspectives*, 28(2)
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- Taylor, J. and Tibshirani, R. J. (2015). Statistical learning and selective inference. *Proceedings of the National Academy of Sciences*, 112(25)
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- Lee, J. D., Sun, D. L., Sun, Y., and Taylor, J. E. (2016). Exact post-selection inference, with application to the lasso. *The Annals of Statistics*, 44(3)
- Belloni, A., Chernozhukov, V., Fernandez-Val, I., and Hansen, C. (2017). Program evaluation and causal inference with high-dimensional data. *Econometrica*, 85(1)
- Abadie, A. and Kasy, M. (2019). Choosing among regularized estimators in empirical economics: The risk of machine learning. *The Review of Economics and Statistics*, 101(5)
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- Ho, D. E., Imai, K., King, G., and Stuart, E. A. (2007). Matching as nonparametric pre-processing for reducing model dependence in parametric causal inference. *Political Analysis*, 15(3)
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- Harding, D. J. (2003). Counterfactual models of neighborhood effects: The effect of neighborhood poverty on dropping out and teenage pregnancy. *American Journal of Sociology*, 109(3)
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## 8 Propensity Score Methods

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- Hirano, K. and Imbens, G. W. (2001). Estimation of causal effects using propensity score weighting: An application to data on right heart catheterization. *Health Services and Outcomes Research Methodology*, 2(3)
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- Dehejia, R. H. and Wahba, S. (2002). Propensity score-matching methods for nonexperimental causal studies. *The Review of Economics and Statistics*, 84(1)



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## 9 Ensemble Methods

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## 10 Instrumental Variables

### Method

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- Belloni, A., Chen, D., Chernozhukov, V., and Hansen, C. (2012). Sparse models and methods for optimal instruments with an application to eminent domain. *Econometrica*, 80(6)

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### Application

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- Black, S. E., Devereux, P. J., and Salvanes, K. G. (2005). The more the merrier? the effect of family size and birth order on children's education. *The Quarterly Journal of Economics*, 120(2)

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## 11 Difference-in-Differences

### Method

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- Abadie, A. (2005). Semiparametric difference-in-differences estimators. *The Review of Economic Studies*, 72(1)
- Athey, S. and Imbens, G. W. (2006). Identification and inference in nonlinear difference-in-differences models. *Econometrica*, 74(2)
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