

Supplemental Course Readings

Jake Bowers, Ben Hansen & Tom Leavitt

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1 Statistical Inference

1.1 Unbiasedness

- [Gerber and Green \(2012, Section 2.4\)](#)

1.2 Standard Errors

- [Gerber and Green \(2012, Chapter 3\)](#)
- [Dunning \(2012, Chapter 6\)](#)
- [Freedman et al. \(2007, Chapter 33, footnote 11\)](#)
- [Lin et al. \(2013\)](#)
- [Aronow et al. \(2014\)](#)

1.3 Covariance Adjustment

- [Gerber and Green \(2012, Chapter 4\)](#)
- [Rosenbaum \(2002a\)](#)

1.4 Weighting

Harmonic Mean Weighting

- [Hansen \(2011, Section 9.3.3\)](#)
- [Hansen and Bowers \(2008, Section 2.1\)](#)

Block-Size Weights

- [Gerber and Green \(2012, Section 3.6.1\)](#)

ATT Weighting

- <http://egap.org/methods-guides/10-types-treatment-effect-you-should-know-about>

1.5 Logistic Regression

- [Freedman \(2008\)](#)

2 Fisherian Inference

2.1 Fisherian Inference with Binary Outcomes

Attributable Effects

- [Rosenbaum \(2002b, Section 5.5\)](#)
- [Rosenbaum \(2010, Section 2.5\)](#)
- [Rosenbaum \(2001\)](#)
- [Hansen and Bowers \(2009\)](#)

2.2 Fisherian Inference with Uncommon but Dramatic Responses to Treatment

Stephenson's Rank Test

- [Stephenson \(1981\)](#)
- [Rosenbaum \(2010, Chapter 16\)](#)
- [Rosenbaum \(2007\)](#)

3 Difference-in-Differences

- [Gerber and Green \(2012, Section 4.1\)](#)
- [Angrist and Pischke \(2008, Section 5.2\)](#)
- [Angrist and Pischke \(2014, Chapter 5\)](#)

4 Regression Discontinuity Designs

- [Lee \(2008\)](#)
- [Caughey and Sekhon \(2011\)](#)
- [Cattaneo et al. \(2015\)](#)
- [Sales and Hansen \(2014\)](#)

5 Sensitivity Analysis

5.1 Rosenbaum-Style Sensitivity Analysis

- [Rosenbaum \(2010, Chapter 3\)](#)
- [Rosenbaum and Silber \(2009\)](#)

SIUP

- [Rosenbaum \(2008\)](#)
- [Hansen and Sales \(2015\)](#)

5.2 Sensitivity Analysis for Statistical Inference

- [Hosman et al. \(2010\)](#)
- [Imbens \(2003\)](#)

References

- Angrist, J. D. and J.-S. Pischke (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton, NJ: Princeton university press. 3
- Angrist, J. D. and J.-S. Pischke (2014). *Mastering 'Metrics: The Path from Cause to Effect*. Princeton, NJ: Princeton University Press. 3
- Aronow, P. M., D. P. Green, D. K. Lee, et al. (2014). Sharp bounds on the variance in randomized experiments. *The Annals of Statistics* 42(3), 850–871. 2
- Cattaneo, M. D., B. R. Frandsen, and R. Titiunik (2015). Randomization inference in the regression discontinuity design: An application to party advantages in the us senate. *Journal of Causal Inference* 3(1), 1–24. 4
- Caughey, D. and J. S. Sekhon (2011). Elections and the regression discontinuity design: Lessons from close us house races, 1942–2008. *Political Analysis* 19(4), 385–408. 4
- Dunning, T. (2012). *Natural Experiments in the Social Sciences: A Design-Based Approach*. New York, NY: Cambridge University Press. 2
- Freedman, D., R. Pisani, and R. Purves (2007). *Statistics* (4th ed.). New York, NY: W. W. Norton & Company. 2
- Freedman, D. A. (2008). Randomization does not justify logistic regression. *Statistical Science* 23(2), 237–249. 3
- Gerber, A. S. and D. P. Green (2012). *Field Experiments: Design, Analysis, and Interpretation*. New York, NY: W.W. Norton. 2, 3
- Hansen, B. B. (2011). Propensity score matching to extract latent experiments from nonexperimental data: A case study. In N. J. Dorans and S. Sinharay (Eds.), *Looking Back: Proceedings of a Conference in Honor of Paul W. Holland*, Volume 202 of *Lecture Notes in Statistics*, Chapter 9, pp. 149–181. New York, NY: Springer. 2
- Hansen, B. B. and J. Bowers (2008). Covariate balance in simple, stratified and clustered comparative studies. *Statistical Science*, 219–236. 2
- Hansen, B. B. and J. Bowers (2009). Attributing effects to a cluster-randomized get-out-the-vote campaign. *Journal of the American Statistical Association* 104(487), 873–885. 3
- Hansen, B. B. and A. Sales (2015). Comment on cochrane's “observational studies”. *Observational Studies*, 184–193. 4
- Hosman, C. A., B. B. Hansen, and P. W. Holland (2010). The sensitivity of linear regression coefficients' confidence limits to the omission of a confounder. *The Annals of Applied Statistics* 4(2), 849–870. 4
- Imbens, G. W. (2003). Sensitivity to exogeneity assumptions in program evaluation. *The American Economic Review* 93(2), 126–132. 4

- Lee, D. S. (2008). Randomized experiments from non-random selection in us house elections. *Journal of Econometrics* 142(2), 675–697. 4
- Lin, W. et al. (2013). Agnostic notes on regression adjustments to experimental data: Reexamining freedman’s critique. *The Annals of Applied Statistics* 7(1), 295–318. 2
- Rosenbaum, P. (2010). *Design of Observational Studies*. New York, NY: Springer. 3, 4
- Rosenbaum, P. R. (2001). Effects attributable to treatment: Inference in experiments and observational studies with a discrete pivot. *Biometrika* 88(1), 219–231. 3
- Rosenbaum, P. R. (2002a). Covariance adjustment in randomized experiments and observational studies. *Statistical Science* 17(3), 286–327. 2
- Rosenbaum, P. R. (2002b). *Observational Studies* (Second ed.). New York, NY: Springer. 3
- Rosenbaum, P. R. (2007). Confidence intervals for uncommon but dramatic responses to treatment. *Biometrics* 63(4), 1164–1171. 3
- Rosenbaum, P. R. (2008). Testing hypotheses in order. *Biometrika*. 4
- Rosenbaum, P. R. and J. H. Silber (2009). Amplification of sensitivity analysis in matched observational studies. *Journal of the American Statistical Association* 104(488), 1398–1405. 4
- Sales, A. and B. B. Hansen (2014). Limitless regression discontinuity. *arXiv preprint arXiv:1403.5478*. 4
- Stephenson, W. R. (1981). A general class of one-sample nonparametric test statistics based on subsamples. *Journal of the American Statistical Association* 76(376), 960–966. 3