
PSC 505
MLE (+ Other Topics)

Fall 2017
Tues/Thurs 8:45-10:30, H329

Professor Curtis S. Signorino
303 Harkness Hall
Office Hours: by appointment
curt.signorino@rochester.edu

TA: Christy Qiu
Office hours: TBD
xqiu6@ur.rochester.edu

COURSE DESCRIPTION: This course builds upon the analytical and applied foundations of PSC 404 and 405, taking the latter's emphasis on the classical linear model as its point of departure. Because

COURSE OUTLINE:

1. R Programming and Monte Carlo Simulation

W. John Braun & Duncan J. Murdoch.
Burns, Patrick. 2011. . Manuscript.

2. Maximum Likelihood Estimation

Pawitan, 2013. . Chapters 1-3, 6.1.
King, Gary. 1998. . Chapters 1-4.
Rodriguez, G. 2001. "Appendix A: Review of Likelihood Theory."

3. Binary Data, Count Data, and Issues in Nonlinear Models

3.1 Binary Data and Count Data

Pawitan, 2013. . Chapters 4.1-4.8. (Bernoulli, Binomial, Poisson)
Pawitan, 2013. . Chapter 6.2-6.3. (Logistic & Poisson Regression)
King, Gary. 1998. . Chapters 5.6-5.10.

Recommended

King, Gary and Curtis S. Signorino. 1996. "The Generalization in the Generalized Event Count Model, with Comments on Achen, Amato and Londegran." 6: 225-252.
Prentice, R. L. 1986. "Binary Regression Using an Extended Beta-Binomial Distribution, With Discussion of Correlation Induced by Covariate Measurement Errors." 81: 321-327.

3.2 Standard Errors and Confidence Intervals

Pawitan, 2013. . Chapter 5.
King, Gary. 1991. "Calculating Standard Errors of Predicted Values based on Nonlinear Functional Forms." 4(2).
Efron, Bradley and Gail Gong. 1983. "A Leisurely Look at the Bootstrap, the Jackknife, and Cross-Validation." . 37(1):36-48.

3.3 Interaction Terms in Nonlinear Models

Norton, Edward C., Hua Wang, and Chunrong Ai. "Computing Interaction Effects and Standard Errors in Logit and Probit Models." 4: 103-116.
Ai, Chunrong and Edward C. Norton. 2003. "Interaction Terms in Logit and Probit Models." 80:123-129.
Braumoeller, Bear F. 2004. "Hypothesis Testing and Multiplicative Interaction Terms." 58: 807-820.
Brambor, Thomas, William Clark, and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." . 14:63-82.

Homework Reading

Martin, Lisa. 1992. . Chapters 2 – 4.
Chang, Eric C. 2005. "Electoral Incentives for Political Corruption under Open-List Proportional Representation." 87: 716-730.

4.

10. Strategic Models, part I

10.1 Bounded Rationality and the Quantal Response Equilibrium (QRE)

McKelvey, Richard D. and Thomas R. Palfrey. 1996. "A Statistical Theory of Equilibrium in Games." 47: 186-209.

McKelvey, Richard D. and Thomas R. Palfrey. 1998. "Quantal Response Equilibria for Extensive Form Games." 1: 9-41.

Fey, Mark, Richard D. McKelvey, and Thomas Palfrey. 1996. "An Experimental Study of the Constant-Sum Centipede Game." 25: 269—287.

10.2 Private Information, Regression, and Misspecification

Signorino, Curtis S. 1999. "Strategic Interaction and the Statistical Analysis of International Conflict." 93: 279—297.

Signorino, Curtis S. 2003. "Structure and Uncertainty in Discrete Choice Models." 11:316—344.

Signorino, Curtis S. and Kuzey Yilmaz. 2003

Wand, Jonathan. 2005. "Comparing Models of Strategic Choice: The Role of Uncertainty and Signaling." 14: 101—120.

Bas, Muhammet, Curtis S. Signorino and Taehee Whang. 2013. "Knowing One's Future Preferences: A Correlated Agent Model with Bayesian Updating."

13. Machine Learning & Flexible Functional For2 TT7 o 1 s