

**Yale University**  
**Department of Political Science**  
**EMPIRICAL ANALYSIS & RESEARCH METHODS READING LIST**  
**2007**

The objectives of the EARM field are threefold: to encourage graduate students to familiarize themselves with the main techniques of quantitative research employed in political science, to stimulate students to think about how they would design and implement empirical research projects that are both tractable and illuminating, and to train students to become intelligent consumers of quantitative work.

Coursework in the field falls into two categories. The first includes seminars such as PLSC500 and PLSC515, which provide an introduction to quantitative and qualitative research methodologies. The second includes PLSC513, PLSC503, PLSC504, and courses offered in other departments that discuss sampling, structural modeling, estimation, and measurement. More generally, the EARM field spans the breadth of Political Science, and students are expected to be familiar with methodological issues in international relations, comparative politics, historical sociology, American politics, political psychology, and kindred fields.

What should one know in order to pass the EARM exam? (See the reading list on the next page.) The exam is divided into three sections:

1. Statistical reasoning: students will be asked to interpret quantitative results and to solve/address standard statistical problems in econometrics. This section is mandatory for all exam-takers.
2. Research design: students will be asked to propose a research design that would address a given theoretical question; successful exams will consider problems of theoretical scope, internal and external validity, operationalization, measurement, and data analysis.
3. Critical evaluation of research methodology: students will be asked to read and offer a methodological critique of a brief research paper.

## EMPIRICAL ANALYSIS AND RESEARCH METHODOLOGY READING LIST

Here is a reading list of methodologically informative essays. Note that it is a bare bones reading list—you should expect to read well beyond the works listed below.

### STATISTICS

You should have a strong command of basic econometrics (regression models and extensions). Among the best texts – sophisticated yet accessible – is:

Greene, William. 2002. *Econometric Analysis*, 5<sup>th</sup> Edition. New York: Prentice-Hall.

See chapters on regression assumptions, instrumental variables regression, maximum likelihood estimation, panel analysis, and nonlinear models.

The following essay has some helpful advice:

King, G. 1986. How Not to Lie With Statistics: Avoiding Common Mistakes in Quantitative Political Science. *American Journal of Political Science*, 30(No.3) 666-687.

Some familiarity with the Bayesian perspective on statistics is useful. Among the great many texts that are out there, one of the most accessible is:

Iverson, G.R. 1984. *Bayesian Statistical Inference*. Beverly Hills: Sage Publications

### MODEL SPECIFICATION

Bartels, L. 1990. Five Approaches to Model Specification. *The Political Methodologist* 3: (No. 2) 2-6.

LaLonde, Robert J. 1986. “Evaluating the Econometric Evaluations of Training Programs with Experimental Data.” *American Economic Review*, 76: 604-20.

Leamer, E.E. 1978. *Specification searches: ad hoc inference with nonexperimental data*. Wiley, New York.

For a political science perspective that, like LaLonde (1986), is skeptical about the prospects for progress using observational data, see:

Gerber, Alan S., Donald P. Green, and Edward H. Kaplan. 2004. The Illusion of Learning from Observational Research. In Ian Shapiro, Rogers Smith, and Tarek Massoud, eds., *Problems and Methods in the Study of Politics*. New York: Cambridge University Press, pp. 251-73.

## TIME SERIES

A large branch of econometrics deals with time-series data. You should understand the basic issues that arise in time-series analysis. See the chapters that lay out the notation and basic results for the ARMA model in

Hamilton, James D. 1994. *Time Series Analysis*. Princeton: Princeton University Press.

## MEASUREMENT ERROR

Given the adverse statistical consequences of measurement error, a large body of statistics discusses the analysis of models with latent variables. For an accessible introduction, see:

Long, J. Scott. 1983 Covariance Structure Models: An Introduction to LISREL. Beverly Hills, Calif.: Sage Publications

## CORE CONCEPTS IN RESEARCH DESIGN

Campbell, D.T. and D.W. Fiske. 1959. Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix. Psychological Bulletin, 56: 81-105

Cook, T.D. and Campbell, D.T. 1979. *Quasi-Experimentation: Design & Analysis Issues for Field Settings*. Chicago: Rand McNally College Pub. Co.

## COMPARATIVE METHOD, SMALL-N STUDIES, AND QUALITATIVE RESEARCH

Carpenter, Daniel. 2000. What is the Marginal Value of Analytic Narratives? Social Science History 24(4): 653-667.

Collier, D. 1991. The Comparative Method: Two Decades of Change. In D.A. Rustow and K.P. Erickson, eds. Comparative Political Dynamic: Global Research Perspectives. New York: Harper Collins.

Fearon, J. 1991. Counterfactuals and Hypothesis Testing in Political Science. World Politics, 43: 169-195.

Fenno, Richard F. 1986. Observation, Context, and Sequence in the Study of Politics. American Political Science Review 80(1): 3-15.

Geddes, Barbara. 1990. How the Cases You Choose Affect the Answers You Get: Selection Bias in Comparative Politics. Political Analysis 2:131-152.

Lieberson, Stanley. 1991. Small N's and Big Conclusions: An Examination of the Reasoning in Comparative Studies Based on a Small Number of Cases. *Social Forces*. 70: 307-320.

#### NONPARAMETRIC APPROACHES

Arceneaux, Kevin, Alan S. Gerber, and Donald P. Green. 2006. Comparing Experimental and Matching Methods using a Large-Scale Voter Mobilization Experiment. *Political Analysis* 14: 1-36.

King, Gary, and Langche Zeng. 2006. The Dangers of Extreme Counterfactuals. *Political Analysis* 14(2):131-159. See also the response by Nicholas Sambanis, at [http://pantheon.yale.edu/~ns237/index/research/ISQ\\_Response.pdf](http://pantheon.yale.edu/~ns237/index/research/ISQ_Response.pdf)