

Syllabus: Essex Summer School, 10-21 August 2009

Empirical Models of Context Conditionality, (Inter)Dependence, and Endogeneity

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Course Content: Specification, estimation, interpretation, & presentation of models of context-conditional effects, of temporal, spatial, and spatiotemporal dynamics, and of systems of endogenous variables.

Course Objectives: Students will have an opportunity to learn how to specify, estimate, interpret, and present empirical models that reflect the sometimes complex (1) interactions and context-conditionality; (2) temporal, spatial, and spatiotemporal dynamics and interdependence; and (3) joint endogeneity of modern theories of domestic, comparative, and international political and social science. Formal empirical-methodologically, this will entail instruction in models of linear and nonlinear interactions, multilevel models, time-serial and spatial-econometric models, and systems-of-equations models.

Course Prerequisites: Students should have a solid background in basic econometrics, meaning a full and firm grasp of the Classical Linear Regression Model and estimators for it (e.g., Ordinary Least-Squares), and at least a solid introduction to the Generalized Linear Regression Model and estimators for it (e.g., Feasible Generalized Least-Squares).

Representative Background Reading: Gujarati, *Basic Econometrics*, parts I & II (CLRM and GLRM), e.g., esp. chs. 7-8 (multiple regression) & 11-12 (heteroscedasticity & autocorrelation in error variance-covariance).

Required texts: (LINKS ARE TO AMAZON.COM PAGE) Hanushek & Jackson, [*Statistical Methods for Social Scientists*](#), or Gujarati, [*Basic Econometrics*](#), or any other good intro/basic regression text (e.g., Kmenta, [*Elements of Econometrics*](#)). Kam & Franzese, [*Modeling & Interpreting Interactive Hypotheses in Regression Analysis*](#), University of Michigan Press, 2007. King, [*Unifying Political Methodology*](#), U. Michigan Press, 1998. Ward & Gleditsch, [*Spatial Regression Models*](#), Sage, 2008.

Course Structure and Readings:

1a. Introduction: The Centrality of Model Specification to Empirical Analysis

1b. Review: Classical & Generalized Linear-Regression Models.

Readings:

Franzese, R.J. 2007. "[Multi-Causality, Context Conditionality, and Endogeneity](#)" in C. Boix and S. Stokes, eds., *Oxford Handbook of Comparative Politics*, Oxford University Press, pp. 27-72.

Background Readings:

Hanushek & Jackson, Chs. 1-6, pp. 1-178.

2a. Review: Maximum Likelihood & Nonlinear/Qualitative/Limited Dependent-Variable Models

2b. The Centrality of Model Specification to Empirical Analysis: Reprise

Readings:

King, Chs. 1-5, pp. 3-132.

Background Readings:

Hanushek & Jackson, Ch.7, pp. 179-216.

Franzese, R.J. 2007. "[Multi-Causality, Context Conditionality, and Endogeneity](#)" in C. Boix and S. Stokes, eds., *Oxford Handbook of Comparative Politics*, Oxford University Press, pp. 27-72.

3. Linear-Interaction Models

Readings:

Kam & Franzese, Chs. 1-4, pp. 1-102.

4. Nonlinear Interaction Models

Readings:

Kam & Franzese, Chs. 5.2, pp. 111-123.

Norton, E.C. and Wang, H. and Ai, C. 2004. "[Computing Interaction Effects and Standard Errors in Logit and Probit Models](#)," *Stata Journal* 4(2):154-167.

Franzese, R.J. 1999. "[Partially Independent Central Banks, Politically Responsive Governments, and Inflation](#)," *American Journal of Political Science* 43(3): 681-706.

Franzese, R.J. 2003. "[Multiple Hands on the Wheel: Empirically Modeling Partial Delegation and Shared Control of Monetary Policy in the Open and Institutionalized Economy](#)," *Political Analysis* 11(4):445-74, 2003.

Additional Readings:

Franzese, R.J. 2009. "[Multiple Policymakers: Veto Actors Bargaining in Common Pools](#)." Version presented at MPSA, March 2009.

Franzese, R.J. 2009. "[An Empirical Model of Comparative Democratic Budgeteering: The Context-Conditionality of Policymakers' Incentives and Capacities for Policy Manipulation](#)." Version presented at SG-PE C&IPE @ IIS-TCD, April 2009.

Ai, C., Norton, E.C. 2003. "[Interaction Terms in Logit and Probit Models](#)," *Economics Letters* 80(1):123-9.

5. Multilevel Interaction Models

Readings:

- Franzese, R.J. 2005. "[Empirical Strategies for Various Manifestations of Multilevel Data](#)," *Political Analysis* 13(4):430-46.
- Steenbergen, M.R., Jones, B.S. 2002. "[Modeling Multilevel Data Structures](#)," *American Journal of Political Science* 46(1):218-37.
- Zorn, C.J.W. 2001. "[Generalized Estimating Equation Models](#) for Correlated Data: A Review with Applications," *American Journal of Political Science* 45(2): 470-490.

6. Temporally Dynamic Models

Readings:

- Beck, N. 1991. "[Comparing Dynamic Specifications: The Case of Presidential Approval](#)," *Political Analysis* 3(1):51-87.
- Keele, L.J., Kelly, N.J. 2006. "[Dynamic Models for Dynamic Theories: The Ins and Outs of LDVs](#)," *Political Analysis* 14(2):186-205.
- Keele, L.J., DeBoef, S. 2008. "[Taking Time Seriously](#)," *American Journal of Political Science* 52(1):184-200.
- Hibbs, D. 1987. *The American Political Economy*, "[Macroeconomic Performance and Mass Political Support for the President](#)," Ch. 5, pp. 142-184.
- Franzese, R.J. 2002. *Macroeconomic Policies of Developed Democracies*, "[Financing the Commitments: Public Debt](#)," Ch. 3, pp. 126-195.

7. Spatially and Spatiotemporally Dynamic Models I

Readings:

- Franzese, R.J., Hays, J.C. 2007. "[Spatial-Econometric Models of Cross-Sectional Interdependence in Political-Science Panel and Time-Series-Cross-Section Data](#)," *Political Analysis* 15(2):140-64.
- Ward, M.D., & Gleditsch, K.S. 2008. *Spatial Regression Models*. Sage.

8. Spatially and Spatiotemporally Dynamic Models II

Readings:

- Franzese, R.J., Hays, J.C. 2008. "[Empirical Models of Spatial Interdependence](#)," in J. Box-Steffensmeier, H. Brady, & D. Collier, eds., *Oxford Handbook of Political Methodology*, Oxford University Press, pp. 570-604.

Please note that this version contains the corrections to the published chapter noted separately in this errata file:

http://www-personal.umich.edu/~franzese/Oxford_Handbook_Corrections.pdf

- Franzese, R.J., Hays, J.C. 2008. "[Empirical Modeling of Spatial Interdependence in Time-Series Cross-Sections](#)" in S. Pickel, G. Pickel, H-J. Lauth, D. Jahn, eds., *Methoden der vergleichenden Politik- und Sozialwissenschaft: Neue Entwicklungen und Anwendungen*. (Methods of Comparative Political and Social Science: New Developments & Applications), pp. 233-62.

9. Systems of Endogenous Equations

Background Readings:

- Hanushek & Jackson, Chs.8-9, pp. 217-281.

Readings:

Jackson, J.E. "[Endogeneity and Structural Equation Estimation in Political Science](#)," in J. Box-Steffensmeier, H. Brady, & D. Collier, eds., *Oxford Handbook of Political Methodology*, Oxford University Press, pp. 404-431.

Additional Readings:

Chapters in *Oxford Handbook of Political Methodology* on Causation by H. Brady, on Neyman-Rubin & Matching by J. Sekhon, on Experimentation by Morton & Williams, on Field & Natural Experiments by Gerber & Green. We may also discuss FIML, LIML, and Bayesian options.

10. Nonlinear Endogenous Systems

Readings:

Franzese, R.J., Hays, J.C. 2008. "[Inequality & Unemployment, Redistribution & Insurance, and Participation: A Theoretical Model & an Empirical System of Endogenous Equations](#)," in P. Beramendi and C. Anderson, eds., *Democracy, Inequality, & Representation*, Russell Sage, pp. 232-77.

Franzese, R.J., Hays, J.C. 2009. "[The Spatial Probit Model of Interdependent Binary Outcomes: Estimation, Interpretation, and Presentation](#)." Version presented at Public Choice 2009.

Hays, J.C., Kachi, A., & Franzese, R. 2009. "[An m-STAR Model of Dynamic, Endogenous Interdependence – a.k.a. Network-Behavior Coevolution – in the Social Sciences](#)." Version presented at SEA 2009.