

17.426: Empirical Models in International Relations (and Comparative Politics)

Spring 2015
Tuesdays, 9am-11am
E53-485
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Course Description

This course explores statistical methods as applied to international relations, with reference to similar applications in comparative politics and other fields. We will discuss statistical approaches to analyzing various types of data used by IR scholars. We will read both methodological and applied work, familiarizing students with an array of models and critically analyzing their strengths and weaknesses. It is not intended as a substitute for Quantitative Methods I, II, and III, but as a complementary course. The goal of the course is to expose students to the range of quantitative models applied in international relations scholarship, assess the strengths and weaknesses of particular modeling choices, and to develop the ability to design empirical research projects of their own. It is strongly recommended that students have taken Quantitative Methods I prior to this course.

Assignments

There are two written assignments from which students can pick one. This assignment will comprise 75 percent of your grade.

- 1) **Term Paper:** A final research paper (25-40 pages) on international relations or comparative politics with a large quantitative component. The parameters are left intentionally broad so that students can tailor the paper to their own research interests, but the topic should be agreed upon in consultation with the instructor. The research paper will comprise 75 percent of the final grade and is due by email on **Thursday May 14, 2015** by **5pm**. Late papers will not be accepted. *You should seek my feedback throughout the semester as you develop this paper.*
- 2) **4 Tutorials:** In lieu of a final paper, students may opt to prepare four tutorials on models from any week of the class. These tutorials should include a conceptual overview of what the method is good for, mathematical details, intuition for the mathematical details, and a worked example (with annotations) in R. The materials should be detailed enough that you could teach a 50-minute lecture/tutorial from the materials. They are due as well-organized zipped directories by email or some other means on **Thursday May 14, 2015** by **5pm**. Late assignments will not be accepted. *You should run the tutorials by me before turning them in to make sure they are of sufficient quality.*

As a seminar, student participation is critical to the success of the course. Students are expected to have done all of the readings and have formed critical thoughts on the week's reading selections and themes. Participation will comprise 25 percent of the final grade.

Readings

All readings should be available through MIT's electronic resources or through the course's Stellar website (<http://stellar.mit.edu/S/course/17/sp15/17.426/>)

Schedule

Week 1 (2/3)	Course Introduction/interaction terms
Week 2 (2/10)	Experiments in IR
2/17 – no class	
Week 3 (2/24)	Non-independent observations 1
Week 4 (3/3)	Non-independent observations 2
Week 5 (3/10)	Matching
Week 6 (3/17)	Instrumental Variables and Natural Experiments
3/24 – no class	
Week 7 (3/31)	Selection models
Week 8 (4/7)	Duration/Event History Models
Week 9 (4/14)	Strategic Models
4/21 – no class	
Week 10 (4/28)	Text Analysis
Week 11 (5/5)	Ideal point estimation; Missing Data
Week 12 (5/12)	Web-scraping; Topics by request

Week 1 (2/3): Course Introduction/Interaction Terms

No required reading.

Further Reading:

Braumoeller, Bear F. 2004. Hypothesis Testing and Multiplicative Interaction Terms. *International Organization* 58 (4):807-820.

Brambor, Thomas, William R. Clark, and Matt Golder. 2006. Understanding Interaction Models: Improving Empirical Analyses. *Political Analysis* 14: 63-82

Braumoeller, Bear F. 2003. Causal Complexity and the Study of Politics. *Political Analysis* 11 (3):209-233.

Nielsen, Richard A. 2013. "Rewarding Human Rights? Selective Aid Sanctions against Repressive States," *International Studies Quarterly*, 57 (4), 791-803.

Week 2 (2/10): Experiments in IR

Findley, Michael G., Daniel L. Nielson, and J.C. Sharman. 2013. "Using Field Experiments in International Relations: A Randomized Study of Anonymous Incorporation." *International Organization*, 67(4). 657-693.

Press, Daryl G., Scott D. Sagan, and Benjamin A. Valentino. 2013. "Atomic Aversion: Experimental Evidence on Taboos, Traditions, and the Non-Use of Nuclear Weapons." *American Political Science Review* 107(1): 188-206.

Tingley, Dustin and Barbara Walter. 2011. "Reputation Building in International Relations: An Experimental Approach." *International Organization*, 65, 343-365.

Week 3 (2/24): Non-independent observations 1

Beck, N. and Jonathan Katz. 1995. What to Do (and what not to do) with Time-Series Cross-Section Data. *American Political Science Review* 89 (3): 634-647

Bischof, Jonathan. 2009. "A Bootstrap Approach to Time Invariance in Panel Data" http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1450057

Green, Donald P., Soo Yeon Kim, and David H. Yoon. 2001. Dirty pool. *International Organization* 55 (2):441-468.

Oneal, John R. and Bruce Russett. 2001. Clear and Clean: The Fixed Effects of the Liberal Peace. *International Organization* 55 (2): 469-485.

Stewart, Brandon M. 2014. Latent Factor Regressions for the Social Sciences. Working Paper.

Further Reading:

Beck, N., and Jonathan Katz. 2001. Throwing Out the Baby with the Bath Water: A Comment on Green, Kim, and Yoon. *International Organization* 55(2):487-495.

King, Gary. 2001. Proper Nouns and Methodological Propriety: Pooling Dyads in International Relations Data. *International Organization* 55(2):497-507

Week 4 (3/3): Non-independent observations 2

Beck, Nathaniel, Jonathan N. Katz and Richard Tucker. 1998. Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable. *American Journal of Political Science* 42(4):1260-1288.

Carter, David B. and Curtis Signorino. 2010. Back to the Future: Modeling Time Dependence in Binary Data. *Political Analysis* 18(3): 271-292.

Zhukov, Yuri, and Brandon Stewart. 2013. "Choosing Your Neighbors: Networks of Diffusion in International Relations." *International Studies Quarterly* 57(2):271-287.

Gleditsch, Kristian Skrede, and Michael D. Ward. 2006. Diffusion and the International Context of Democratization. *International Organization* 60(4):911-933.

Poast, Paul. 2010. "(Mis)Using Dyadic Data to Analyze Multilateral Events." *Political Analysis*, 18(4): 403-425.

Further Reading

Renshon, Jonathan and Arthur Spirling. 2010. Democratic Effectiveness in International Relations. Unpublished Manuscript. Available at:

<http://www.people.fas.harvard.edu/~spirling/documents/DemIR.pdf>.

Neumayer, Eric and Thomas Plümer. Spatial Effects in Dyadic Data. 2010. *International Organization* 64 (1): 145-166.

Ward, Michael D., and Kristian Skrede Gleditsch. 2002. Location, Location, Location: An MCMC Approach to Modeling the Spatial Context of War and Peace. *Political Analysis* 10(3):244-260.

Ward, Michael D., Randolph M. Siverson, and Xun Cao. 2007. Disputes, Democracies, and Dependencies: A Reexamination of the Kantian Peace. *American Journal of Political Science* 51(3):583-601.

Week 5 (3/10): Matching

Nielsen, Richard A., Michael G. Findley, Zachary S. Davis, Tara Candland, and Daniel L. Nielson. 2011. Foreign Aid Shocks as a Cause of Violent Armed Conflict. *American Journal of Political Science*.

Gilligan, Michael J. and Ernest J. Sargenti. 2008. Do UN Interventions Cause Peace? Using Matching to Improve Causal Inference. *Quarterly Journal of Political Science* 3: 89-122.

King, Gary, Christopher Lucas, and Richard Nielsen. "The Balance-Sample Size Frontier in Matching Methods for Causal Inference" Working Paper.

Lyall, Jason. February 2010. Are Co-Ethnics More Effective Counter-Insurgents? Evidence from the Second Chechen War. *American Political Science Review* 104 (1): 1-20.

Further Reading:

Sekhon, Jasjeet S. 2009. Opiates for the Matches: Matching Methods for Causal Inference. *Annual Review of Political Science* 12: 487-508.

Lyall, Jason. June 2009. Does Indiscriminate Violence Incite Insurgent Attacks? Evidence from Chechnya. *Journal of Conflict Resolution* 53 (3): 331-362.

Lyall, Jason. Winter 2010. Do Democracies Make Inferior Counterinsurgents? Reassessing Democracy's Impact on War Outcomes and Duration. *International Organization* 64 (1): 167-92.

Week 6 (3/17): Instrumental Variables and Natural Experiments

Miguel, Edward, Shanker Satyanath and Ernest Sergenti. 2004. Economic Shocks and Civil Conflict: An Instrumental Variables Approach. *Journal of Political Economy*. 112(4).

Getmansky, Anna and Thomas Zeitzoff. 2014. "Terrorism and Voting: The Effect of Exposure to Rockets on Voting in Israeli Elections." *American Political Science Review*, 108(3).

Shannon Lindsey Blanton and Robert G. Blanton. 2007. What Attracts Foreign Investors? An Examination of Human Rights and Foreign Direct Investment. *Journal of Politics*. 69(1).

Replication of Blanton and Blanton (2007) to be provided by instructor.

Stephen Kosack and Jennifer Tobin. 2006. Funding self-sustaining development: The role of aid, FDI and government in economic success. *International Organization*. 60(1).

Week 7 (3/31): Selection models

Von Stein, Jana. 2005. Do Treaties Constrain or Screen? Selection Bias and Treaty Compliance. *American Political Science Review* 99(4): 611-622 .

Simmons, Beth A, and Daniel J Hopkins. 2005. The Constraining Power of International Treaties: Theory and Methods. *American Political Science Review* 99 (4):623-631.

Colin Vance and Nolan Ritter. In Press. "Is peace a missing value or a zero? On selection models in political science" *Journal of Peace Research*.

Beardsley, Kyle, and Victor Asal. 2009. Winning with the Bomb. *Journal of Conflict Resolution* 53 (2): 278-301.

Brandt, Patrick T. and Christina J. Schneider. 2004. "So the Reviewer Told You to Use a Selection Model? Selection Models and the Study of International Relations."

Further Reading:

Sartori, Anne E. 2003. "An Estimator for Some Binary-Outcome Selection Models Without Exclusion Restrictions," *Political Analysis* 11, 111-138.

Smith, Alastair. 1996. To Intervene or Not to Intervene: A Biased Decision. *Journal of Conflict Resolution* 40(1):16-40.

Reed, William. 2000. A Unified Statistical Model of Conflict Onset and Escalation. *American Journal of Political Science* 44(1):84-93.

Lemke, Douglas, and William Reed. 2001. War and Rivalry Among Great Powers. *American Journal of Political Science* 45 (2):457-469.

Danilovic, Vesna. 2001. Conceptual and Selection Bias Issues in Deterrence. *Journal of Conflict Resolution* 45(1):97-125.

Fortna, Virginia Page. 2004. Does Peacekeeping Work? *International Studies Quarterly* 48 (2): 269-292.

Week 8 (4/7): Duration/Event History Models

Alt, James, Gary King, and Curtis Signorino. 2001. "Aggregation Among Binary, Count, and Duration Models: Estimating the Same Quantities from Different Levels of Data" *Political Analysis* 9(1).

Box-Steffensmeier, Janet M., Dan Reiter, and Christopher Zorn. 2003. Nonproportional Hazards and Event History Analysis in International Relations. *Journal of Conflict Resolution* 47(1):33-53.

Fearon, James D. 2004. Why do Some Civil Wars Last Much Longer than Others? *Journal of Peace Research* 41 (3): 275-301.

Elkins, Zachary, Andrew T. Guzman, and Beth A. Simmons. 2006. Competing for capital: The diffusion of bilateral investment treaties, 1960-2000. *International Organization* 60(4): 811-846

Further Reading:

King, Gary. 1989. Event Count Models for International Relations: Generalizations and Applications. *International Studies Quarterly* 33 (2):123-147.

Collier, Paul, Anke Hoeffler, Mans Söderbom. 2004. On the Duration of Civil War. *Journal of Peace Research* 41 (3): 253-273.

Bennett, D. Scott, and Allan C Stam III. 1996. The Duration of Interstate Wars, 1816-1985. *American Political Science Review* 90 (2):239-257.

Fortna, Virginia Page. 2003. Scraps of Paper? Agreements and the Durability of Peace. *International Organization* 57(2): 337-372.

Howell, William G, and Jon C Pevehouse. 2005. Presidents, Congress, and the Use of Force. *International Organization* 59 (1):209-232.

Week 9 (4/14): Strategic Models

Signorino, Curtis S. 1999. Strategic Interaction and the Statistical Analysis of International Conflict. *American Political Science Review* 93(2):279-297

Smith, Alastair. 1999. Testing Theories of Strategic Choice: The Example of Crisis Escalation. *American Journal of Political Science* 43(4):1254-1283.

Signorino, Curtis S., and Ahmer Tarar. 2006. A Unified Theory and Test of Extended Immediate Deterrence. *American Journal of Political Science* 50(3):586-605.

Bas, Muhammet, Curtis S. Signorino, and Robert W. Walker. 2008. Statistical Backwards Induction: A Simple Method for Estimating Recursive Strategic Models. *Political Analysis* 16(1):21-40.

Further Reading:

Fearon, James D. 1994. Signaling versus the Balance of Power and Interests: An Empirical Test of a Crisis Bargaining Model. *The Journal of Conflict Resolution*, 38(2):236-269.

Carrubba, Clifford J., Amy Yuen, and Christopher Zorn. 2007. In Defense of Comparative Statics: Specifying Empirical Tests of Models of Strategic Interaction. *Political Analysis* 15(4): 465-482.

Signorino, Curtis S. 2007. On Formal Theory and Statistical Methods: A Response to Carrubba, Yuen, & Zorn. *Political Analysis* 15(4):483-504.

Week 10 (4/28): Text Analysis

Lucas C, Nielsen R, Roberts ME, Stewart BM, Storer A, Tingley D. Forthcoming. "Computer assisted text analysis for comparative politics." *Political Analysis*.

Spirling, Arthur. 2012. "U.S. Treaty Making with American Indians: Institutional Change and Relative Power, 1784–1911" *American Journal of Political Science* 56(1).

Nielsen, Richard. "Can Ideas be 'Killed?' Evidence from Counterterrorism Targeting of Jihadi Ideologues." Working Paper.

O'Connor B, Stewart BM, Smith NA. Learning to Extract International Relations from Political Context. Association of Computational Linguistics. 2013.

Week 11 (5/5): Ideal point estimation; Missing Data

Fariss, Christopher J. 2014. Respect for Human Rights has Improved Over Time: Modeling the Changing Standard of Accountability. *American Political Science Review* 108(2):297-318

Voeten, Erik. 2004. "Resisting the lonely superpower: responses of states in the United Nations to US dominance" *Journal of Politics*, 66(3).

Lupu, Yonatan. 2013. "The Informative Power of Treaty Commitment: Using the Spatial Model to Address Selection Effects." 57(4).

Honaker, James and Gary King. 2010. What to do about Missing Values in Time-Series Cross-Section Data. *American Journal of Political Science* 54 (2): 561-581.

Blackwell, Matthew, James Honaker, and Gary King. In Press. A Unified Approach to Measurement Error and Missing Data: Overview, Sociological Methods and Research. Copy at <http://j.mp/jqj72>

Week 12 (5/12): Web-scraping; Topics by request

Jackman, Simon. "Data from the Web into R" *The Political Methodologist*, 14(2).

Nielsen, Richard A. and Beth A. Simmons. In Press. Rewards for Ratification: Payoffs for Participating in the International Human Rights Regime?" *International Studies Quarterly*.

Other papers TBA as requested by the class.