

# VIOLENT POLITICAL CONFLICT: MODELING DYNAMIC INTERACTION

INR 5934-01  
Will Moore, Associate Professor  
Thu, 3:30-6:00, Bellamy 113  
Office Hours: MW 1-2, R 10-11<sup>1</sup>

Fall 2001  
Office: Bellamy 541  
email: william.moore@fsu.edu  
Phone: 644-6924, Fax: 644-1367

## INTRODUCTION:

This course is an introduction to political science models of the interaction of two (or more) actors in conflict. We will review the major modeling approaches that scholars have used to study dynamic interaction, with an emphasis on the use of differential equations. We will also study some optimization models, and briefly look at game theoretic treatments. Students who complete the course should be able to critically assess literature that uses these types of models. Those of you who wish to use these types of models in your own work will need to conduct additional study beyond this course.

## ASSIGNMENTS & EVALUATION

Your grade for this course will be assigned on the basis of your performance along three criteria:

- Class participation (40%)
- Oral presentation (20%)
- Semester paper (40%)

### Class Participation

This is a seminar, not a lecture course. As such, you are expected to not only do the reading and arrive prepared to discuss it, but you are expected to actively participate in the seminar. If you are shy or reserved, it is a good idea to check that personality trait at the door: I cannot give you credit for class participation unless you participate. To be more explicit, ***class participation*** will be evaluated as follows:

+ (A): The student made an unusually strong contribution to the discussion,

---

<sup>1</sup> Or by appointment.

making connections across the readings with her/his questions and/or comments.

✓ (B): The student contributed meaningfully to the class discussion by asking good questions and/or exhibiting a grasp of the material s/he discussed.

- (C): The student spoke, but did not contribute meaningfully to the discussion.

0 (F): The student did not speak in class.

I will call on students in class, but those who want to do well will need to contribute more than when they are called upon. The two lowest scores will be dropped before calculating the participation grade for the course.

### Oral Presentation

In the 10<sup>th</sup> week of the semester each student will give a 15-20 minute oral presentation of her/his semester paper project. This will be a progress report, the purpose of which is to gain feedback from classmates about strengths and weaknesses of the project.

### Semester Paper

You have two choices for the paper. First, you can write a critical literature review paper. This is a thought paper in which you develop and elaborate your own perspective on a literature that you define. Should you choose this option, be sure to read my online essay “How to Write a Thought Paper.”

Second, you can design and complete an original research project during the course. This is not a research design, but rather a research project. Given the time limitations, allowances will be made for operational—but not theoretical—shortcomings (i.e., the paper is not expected to be ready for submission to a journal).

*PLEASE NOTE:* Late work will be marked down 1 letter grade per day late (e.g., A- to B-). This policy will only be excepted when genuine medical excuses, or emergencies beyond your control prevent you from completing the work on time. Written documentation is required.

### *Grading Scale*

A+	98-100
A	93-97
A-	90-92

B+	88-89
B	83-87
B-	80-82
C+	78-79
C	73-77
C-	70-72
D+	68-69
D	63-67
D-	60-62
F	0-59

### *Posting Grades*

After the term is complete, grades will be posted using the last 6 digits of the student's ID #. If you would prefer that your grade not be posted, please notify me and I will remove it from the sheet that is posted.

### *Academic Honesty*

With respect to academic honesty, FSU students are governed by an honor code and you are advised to familiarize yourself with this policy (see the Student Handbook which is available in paper or via the WWW). Cheating and plagiarism will not be tolerated: it will lead to a zero on the assignment, and will likely lead to dismissal from the program.

### *Accommodating Challenges*

Students with challenges who require individualized testing or other accommodations should identify themselves to the instructor and express their needs during the first week of class. Where the challenge is not immediately apparent, verification will be required. The Department of Political Science is happy to do whatever it can to assure each student a full and rewarding participation in our courses.

## READING LIST

The reading is broken up into 6 sections, most of which have sub-sections. The books are available for purchase at the FSU Bookstore. Many of the articles are available through JSTOR. I have placed one copy of those that are not available on JSTOR in the filing cabinet in the hallway outside my office door.

1. Differential Equations & Dynamic Modeling
2. Estimating Parameters in Systems of Equations

3. Mechanistic Models
  - a. Arms Races
  - b. Foreign Policy
  - c. Internal Conflict
4. Optimization Models
  - a. Arms Races
  - b. Internal Conflict
5. Expectations Models
  - a. Arms Races
  - b. Foreign Policy
  - c. Internal Conflict
6. Game Theory Models
  - a. Arms Races
  - b. Foreign Policy
  - c. Internal Conflict

Week 1: Thu 30 Aug

Lichbach. 1992. "Nobody Cites Nobody Else," *Defence Economics*, 3:341-357.

## **1. Differential Equations & Dynamic Modeling--Theory and Tools**

Week 2: Thu 6 Sep

No assigned reading

Week 3: Thu 13 Sep

Huckfeldt, R. Robert, C.W. Kohfeld, and Thomas W. Likens. 1982. *Dynamic Modeling: An Introduction*, Sage University Paper Series on Quantitative Application in the Social Sciences, 07-027, Beverly Hills: Sage.

## **2. Parameter Estimation in Systems of Equations**

Week 4: Thu 20 Sep

Kennedy, Peter. 1992. "Violating Assumption Four: Simultaneous Equations," *A Guide to Econometrics*, 3<sup>rd</sup> ed, The MIT Press.

Freeman, John R., John T. Williams, and Tse-min Lin. 1989. "Vector Autoregression and the Study of Politics," *AJPS*, 33:842-877.

### **3. Mechanistic Models**

Week 5: Thu 27 Sep

#### ***3a1. Arms Races-Theory***

- Richardson, Lewis F. 1919. *Mathematical Psychology of War*, unpublished ms.
- Intriligator, Michael D. & Dagobert L. Brito. 1989. "Richardsonian Arms Race Models," in M.I. Midlarsky (ed.) *Handbook of War Studies*, Ann Arbor: Michigan University Press, pp. 219-236.
- Siverson, Randolph M. & Paul F. Diehl. 1989. "Arms Races, the Conflict Spiral, and the Onset of War," , in M.I. Midlarsky (ed.) *Handbook of War Studies*, Ann Arbor: Michigan University Press, pp. 195-218.
- Anderton, Charles W. 1989. "Arms Race Modeling: Problems and Prospects," *Journal of Conflict Resolution*, 33:346-367.

#### ***3a2. Arms Races-Empirics***

Week 6: Thu 4 Oct

- Ostrom, Charles W., Jr. 1978. "A Reactive Linkage Model of the U.S. defense Expenditure Policymaking Process," *APSR*, 72:941-957.
- Ward, Michael Don. 1984. "Differential Paths to Parity: A Study of the Contemporary Arms Race," *APSR*, 78:297-317.
- Ostrom, Charles W., Jr. & Robin F. Marra. 1986. "U.S. Defense Spending and the Soviet Estimate," *APSR*, 80:819-842.
- Tang, De-piao & David C.H. Yang. 1988. "Testing for Causality in the Richardson Arms Race Model," *Mathematical Social Sciences*, 15:197-203.
- Kollias, Christos & Stelios Makrydakis. 1997. "Is There A Greek-Turkish Arms Race? Evidence from Cointegration and Causality Tests," *Defence and Peace Economics*, 8:355-379.
- Bolks, S. & R.J. Stoll. 2000. "The Arms Acquisition Process: The Effect of Internal and External Constraints on Arms Race Dynamics," *Journal of Conflict Resolution*, 44:580-603.

#### ***3b. Foreign Policy***

Week 7: Thu 11 Oct

- Goldstein, Joshua S. & John R. Freeman. 1990. *Three Way Street: Strategic Reciprocity in the Superpower Triad*, University of Chicago Press.
- Dixon, William J. 1986. "Reciprocity in United States—Soviet Relations: Multiple Symmetry or Issue Linkage?" *AJPS*, 30:421-445.
- Dixon, William J. 1988. "The Discrete Sequential Analysis of Dynamic

International Behavior,” *Quality and Quantity*, 22:239-254.  
Goldstein, Joshua & Jon C. Pevehouse. 1997. “Reciprocity, Bullying, and International Cooperation: Time-Series Analysis of the Bosnia Conflict,” *APSR*, 91:515-530.

### ***3c1. Internal Conflict--Theory***

#### Week 8: Thu 18 Oct

Tsebelis, George & John Sprague. 1989. “Coercion and Revolution: Variations on a Predator-Prey Model,” *Mathematical and Computer Modeling*, 12:547-559.  
Karmeshu, V.P. Jain & A.K. Mahajan. 1990. “A Dynamic Model of the Domestic Political Conflict Process,” *JCR*, 34:252-269.  
Simon, Marc V. 1994. “Hawks, Doves, and Civil Conflict Dynamics: A ‘Strategic’ Action-Reaction Model,” *International Interactions*, 19:213-239.

### ***3c2. Internal Conflict--Empirics***

Stahel, Albert A. 1985. “Dynamic Models of Guerrilla Warfare,” in U. Luterbacher & M.D. Ward (eds.) *Dynamic Models of International Conflict*, Boulder: Lynne Rienner, pp. 354-369.  
Francisco, Ronald A. 1995. “The Relationship between Coercion and Protest: An Empirical Evaluation in Three Coercive States,” *Journal of Conflict Resolution*, 39:263-282.  
Francisco, Ronald A. 1996. “Coercion and Protest: An Empirical Test in Two Democratic States,” *AJPS*, 40:1179-1204.  
Moore, Will H. & David R. Davis. 1998. “Ties That Bind? Domestic and International Conflict Behavior in Zaire,” *Comparative Political Studies*, 31:45-71.

## **4. Optimization Models**

### ***4a. Arms Races***

#### Week 9: Thu 25 Oct

Gillespie, John V., Dina A. Zinnes, G. S. Tahim, Philip A. Schrodt & R. Michael Rubison. 1977. “An Optimal Control Model of Arms Races,” *APSR*, 71:226-244.  
Oren, Ido. 1994. “The Indo-Pakistani Arms Competition: A Deductive and Statistical Analysis,” *Journal of Conflict Resolution*, 38:185-214.

### ***4b1. Internal Conflict-Theory***

Lichbach, Mark Irving. 1984. "An Economic Theory of Governability: Choosing Policy and Optimizing Performance," *Public Choice*, 44:307-337.

Lichbach, Mark Irving. 1987. "Deterrence or Escalation? The Puzzle of Aggregate Studies of Repression and Dissent," *Journal of Conflict Resolution*, 31:266-297.

### ***4b2. Internal Conflict-Empirics***

Moore, Will H. 1998. "Repression and Dissent: Substitution, Context, and Timing," *AJPS*, 42:851-873.

Moore, Will H. 2000. "The Repression of Dissent: A Substitution Model of Government Coercion," *Journal of Conflict Resolution*, 44:107-127.

Week 10: Thu 1 Nov

Project presentations—no assigned reading.

## **5. Expectations Models**

### ***5a. Arms Races***

*Adaptive Expectations*

Week 11: Thu 8 Nov

Majeski, Stephen J. & David L. Jones. 1981. "Arms Race Modeling: Causality Analysis and Model Specification," *Journal of Conflict Resolution*, 25:259-288.

Majeski, Stephen J. 1985. "Expectations and Arms Races," *AJPS*, 29:217-245.

*Rational Expectations*

McGinnis, Michael D. & John T. Williams. 2001. *Compound Dilemmas: Democracy, Collective Action, and the Superpower Rivalry*, Ann Arbor: University of Michigan Press.

## **5b. Foreign Policy**

Week 12: Thu 15 Nov

- Rajmaira, Sheen & Michael D. Ward. 1990. "Evolving Foreign Policy Norms: Reciprocity in the Superpower Triad," *International Studies Quarterly*, 34:457-475.
- Ward, Michael D. & Sheen Rajmaira. 1992. "Reciprocity and Norms in U.S.-Soviet Foreign Policy," *Journal of Conflict Resolution*, 36:342-368.
- Rajmaira, Sheen. 1997. "Indo-Pakastani Relations: Reciprocity in Long-Term Perspective," *International Studies Quarterly*, 41:547-560.
- Moore, Will H. & David J. Lanoue. 2001. "Does Domestic Politics Drive US Foreign Policy," [working paper](#).
- Lebo, Matthew J. & Will H. Moore. 2001. "Fractional Integration and Foreign Policy," [working paper](#).

## **5c. Internal Conflict**

- Moore, Will H. 1995. "Action-Reaction or Rational Expectations?" *Journal of Conflict Resolution*, 39:129-167.

Week 13: Thu 22 Nov

In lieu of seminar, one-on-one meetings with Prof. Moore in his office (please sign up)—no assigned readings.

## **6. Game Theory Models**

### **6a. Arms Races**

Week 14: Thu 29 Nov

- Lichbach, Mark I. 1989. "Stability in Richardson's Arms Races and Cooperation in Prisoner's Dilemma Arms Races," *AJPS*, 33:1016-1047.
- Lichbach, Mark I. 1990. "When is an Arms Race a Prisoner's Dilemma: The Computability of Richardson's Models and 2x2 Games," *Journal of Conflict Resolution*, 34:29-56.
- Kydd, Andrew. 1997. "Game Theory and the Spiral Model," *World Politics*, 49:371-400.
- Kydd, Andrew. 2000. "Arms Races and Arms Control: Modeling the Hawk Perspective," *AJPS*, 44:228-244.

Smith, R., M. Sola & F. Spagnola. 2000. "The Prisoner's Dilemma and Regime-Switching in the Greek-Turkish Arms Race," *Journal of Peace Research*, 37:737-750.

### **Another Differential Equation Model**

Week 15: Thu 6 Dec

Kadera, Kelly M. 2001. *The Power-Conflict Story: A Dynamic Model of Interstate Rivalry* Ann Arbor: University of Michigan Press.