

## Political Choice and Strategy

Winter Term 2019/2020

Time: Tuesday, 10:00 AM – 11:30 AM (with block session on 20 January 2020)

Location: IBW Gebäude, Seminar Room 3.40

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Office Hours: Wednesday, 1:00 PM – 3:00 PM and by appointment

**Overview.** Is democracy the best form of government? When does ethnicity, rather than class, become the primary dimension of political conflict within a society? Why and when might elites concede political power to the masses? Rational choice models of decision-making by individual actors have been used to answer all these questions and many more. This course will introduce students to key concepts and results from social choice theory – the study of how individual preferences are aggregated (e.g. when electing a government) – as well as game theory – the study of decision-making by rational agents within a strategic environment. It will also illustrate how the mathematical models developed in these fields can be used to understand recent political events and dilemmas. Finally, towards the end of the course, we will engage with ongoing debates on how mathematical models can and should be interpreted, empirically evaluated and therefore used by political scientists. By the end of the course, students should be able to (i) solve and interpret simple mathematical models and (ii) to apply such models to the study of political behaviour, processes and outcomes.

**Prerequisites.** There are no formal prerequisites beyond familiarity with high school algebra. However, some background in, and comfort with, mathematical reasoning would be advantageous. Moreover, students should be able to understand and express themselves in English, as this will be the classroom language – though perfection is neither expected nor required. All coursework should also be completed in English.

**Assessment.** Your performance in this course will be evaluated using a portfolio examination, which will comprise of four graded assignments (20% each, 80% total) and one in-class presentation (20%), scheduled for the block session on 20 January 2020. In the assignments, students will be asked to apply the concepts and tools covered in the class to solve simple social choice or game theoretic problems, while the in-class presentation will provide students with an opportunity to engage critically with debates on how formal models have been, and can be, used to study political processes and outcomes. If you can verifiably demonstrate that you cannot attend the block session on 20 January 2020, please contact me to make alternative arrangements for the presentation.

*Assignments.* You will have about three weeks to complete each of the assignments. Assignments should be submitted electronically as a PDF to the instructor by 23:55 CET on 5 November, 26 November, 17 December and 14 January, respectively. You are encouraged to use the document preparation system LaTeX to write up your assignments, which is well-suited for typesetting mathematical content. More guidance on how to set up and use LaTeX will be

provided in-class during the semester (during the third session, on 22 October 2019, when the first assignment will be distributed).

You may discuss the problems with other students, but answers should be written up independently. Two nearly identical assignments will receive zero, and late submissions will be penalised unless previously arranged with the instructor. If you work with others, please indicate their names on your submission.

**Required Readings.** Most readings will be drawn from the following textbooks. Several copies of Osborne (2009) are available for loan in the “Lehrbuchsammlung” of the main library, while reference copies of the remaining two books are available at the Economics library. Students may also like to purchase their own copies from online vendors. Note that Dixit et al. (2014) cover similar topics to Osborne (2009), but at a more basic level. Other readings will be made available to students by the instructor via ILIAS. If in doubt, students should prioritize the starred readings each week.

- Martin J. Osborne. 2009. *An Introduction to Game Theory*.
- Kenneth A. Shepsle. 2010. *Analyzing Politics: Rationality, Behavior, and Institutions*.
- Avinash Dixit, Susan Skeath and David H. Reiley Jr. 2014. *Games of Strategy*.

#### **Key Dates.**

- 8 October 2019: first session
- 22 October 2019: in-class tutorial on LaTeX.
- 5 November 2019: deadline for Assignment #1
- 26 November 2019: deadline for Assignment #2
- 17 December 2019: deadline for Assignment #3
- 14 January 2020: deadline for Assignment #4
- 20 January 2020: block session/in-class presentation

### **Course Schedule**

#### **8 October: Fundamentals of Rational Choice**

- \*Shepsle, *Analyzing Politics*, ch. 1-2.
- Osborne, *Game Theory*, ch. 1.
- Joshua Epstein. 2008. “Why Model?” *Journal of Artificial Societies and Social Simulation*, 11(4).

#### **15 October: The Problem of Social Choice I.**

- \*Shepsle, *Analyzing Politics*, chs. 3-4.
- Humphreys, *Political Games*: 8 (Condorcet’s paradox); 9 (Arrow’s theorem); 11 (May’s theorem).

#### **22 October: The Problem of Social Choice II (and LaTeX tutorial).**

- \*Shepsle, *Analyzing Politics*, pp. 90-110.

- Humphreys, *Political Games*: 12 (median voter theorem); 14 (Plott's theorem); 15 (McKelvey-Schofield chaos theorem).

### **29 October: Normal Form Games.**

- \*Osborne, *Game Theory*, ch. 2.
- Dixit et al., *Games of Strategy*, ch. 4.
- Humphreys, *Political Games*: 1 (prisoner's dilemma); 2 (chicken); 3 (assurance dilemma).

### **5 November: Models of Spatial Competition.**

- \*Shepsle, *Analyzing Politics*, pp. 110-148.

### **12 November: Mixed Strategies.**

- \*Osborne, *Game Theory*, ch. 4.
- Dixit et al., *Games of Strategy*, ch. 7.

### **19 November: Problems of Collective Action.**

- \*Shepsle, *Analyzing Politics*, ch. 9-10.
- Dixit et al., *Games of Strategy*, ch. 11.
- Humphreys, *Political Games*: 20 (rational voter paradox); 42 (logic of collective action); 43 (threshold model of revolution)

### **26 November: Extensive Form Games I.**

- \*Osborne, *Game Theory*, ch. 5.
- Dixit et al., *Games of Strategy*, ch. 3.
- Humphreys, *Political Games*: 18 (legislative bargaining); 30 (commitment problems).

### **3 December: Extensive Form Games II.**

- \*James A. Robinson. 2006. 'Economic development and democracy.' *Annual Review of Political Science* 9: 503-507.

### **10 December: Repeated Games I.**

- \*Osborne, *Game Theory*, ch. 14.
- Dixit et al., *Games of Strategy*, ch. 10.
- Humphreys, *Political Games*: 4 (folk theorem).

### **17 December: Repeated Games II.**

- \*Fearon and Laitin. 1996. "Explaining interethnic cooperation." *American Political Science Review*. 90(4): 715-735.

## **BLOCK SESSION ON 20 JANUARY 2020: Use and Abuse of Models**

The final session of the course will take place over one compact block session, which will use a roundtable format. All seminar participants should complete the mandatory readings ahead of class. Each participant will also be responsible for presenting on one of the remaining readings (potentially as part of a group) to the rest of the seminar. This presentation will be assessed and will be worth 20% of your final grade. In your presentation, you will be expected to briefly summarize the argument of the reading to your peers and to critically evaluate its claims (or implications) regarding the usefulness (or lack thereof) formal modelling in political science. We will divide up the readings before adjourning for the Christmas break.

### Mandatory reading

1. Donald Green and Ian Shapiro. 1994. *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science*, chs. 2-3.

### Other readings

1. Donald Green and Ian Shapiro. 1994. *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science*, chs. 4-5.
2. Daniel Diermeier. 1995. "Rational choice and the role of theory in political science." *Critical Review* 9(1-2): 59-70.
3. Robert E. Lane. 1995. "What rational choice explains." *Critical Review* 9(1-2): 107-126.
4. Susanne Lohmann. 1995. "The poverty of Green and Shapiro." *Critical Review* 9(1-2): 127-154.
5. Peter Ordeshook. 1995. "Engineering or science: What is the study of politics?" *Critical Review* 9(1-2): 175-188.
6. Kenneth A. Shepsle. 1995. "Statistical political philosophy and positive political theory." *Critical Review* 9(1-2): 213-222.
7. Michael Taylor. 1995. "Battering RAMs." *Critical Review* 9(1-2): 223-234.
8. Donald Green and Ian Shapiro. 1995. "Pathologies revisited: Reflections on our critics." *Critical Review* 9(1-2): 235-276.
9. Gary W. Cox. 1999. "The Empirical Content of Rational Choice Theory." *Journal of Theoretical Politics*
10. Kevin Clarke and David Primo. 2007. "Modernizing Political Science: A Model-Based Approach." *Perspectives on Politics* 5(4): 741-53.
11. Amartya Sen. 2009. *The Idea of Justice*, chs. 2-4.
12. Simon Hug. 2014. "Further twenty years of pathologies? Is Rational Choice better than it used to be?" *Swiss Political Science Review* 20(3): 486-497. (Also James Johnson. 2014. "Simon Hug's Retrospective on *Pathologies of Rational Choice Theory: A Dissent*." *Swiss Political Science Review* 21(1): 180-87.)
13. James Johnson. 2014. "Models Among the Political Theorists." *American Journal of Political Science* 58(3): 547-60.
14. Peter Lorentzen, M. Taylor Fravel and Jack Paine. 2017. "Qualitative Investigation of Theoretical Models: The Value of Process Tracing." *Journal of Theoretical Politics* 29(3): 467-491.
15. Jack Paine and Scott A. Tyson. 2019. "Uses and Abuses of Formal Models in Political Science," in SAGE Handbook of Political Science: A Global Perspective.
16. Milan Svoblik. 2019. "Democracy as an equilibrium: rational choice and formal political theory in democratization research." *Democratization* 26(1): 40-60.
17. Hun Chung. Forthcoming. "Rawls's self-defeat: A formal analysis." *Erkenntnis*: 1-29.