

PEC 575 SOCIAL CHOICE, BARGAINING, AND ELECTIONS

Fall, 2017
T 3:25–6:05pm
Harkness 112

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Hours: by appointment

The course covers models of elections and legislative bargaining, with a special focus on the fundamental connections between the two modeling applications. The common theme is a canonical framework in formal models of politics: optimal choice of policy, subject to approval by a voting body. In elections, this is a candidate's choice of electoral platform, which is then voted on by the electorate; in bargaining, this is the choice of a policy proposal, which is then voted on by members of a committee or legislature. We begin with background in social choice theory, which is used in the later game-theoretic analyses. We then examine the canonical model as applied to static elections, dynamic bargaining, bargaining with an endogenous status quo, political accountability, infinitely repeated elections, and lobbying. (Not all topics will be covered in detail; topic selection depends on time and interest.) The course will consist of a mix of lectures, discussion, student presentations, and a final exam.

Below is a list of topics that may be covered. In each section, lectures will be based on underlined readings; these are notes and surveys that will be distributed to class participants. Following those, I give a selection of readings from which student presentations can be chosen.

1 Mathematical Background

Some of the analysis will require relatively advanced mathematics, but background will be provided as needed. Section 1 of “Notes on Spatial Bargaining” contains an overview of metric spaces, measure and integration, and correspondences; a more extensive review is presented in my “Basic Concepts” notes.

- J. Duggan (2014) “Notes on Spatial Bargaining and Stochastic Games,” Section 1
- J. Duggan (2014) “Basic Concepts in Mathematical Analysis: A Tourist Brochure”

2 Social Choice Theory

We cover basics of relations, preference, and choice. We then move to preference aggregation, with a focus on simple voting rules, and we review impossibility theorems of Arrow, Gibbard, and Nakamura. The majority top cycle and uncovered set are defined. Possibility results for value restriction will be proven and applied to models with single-peaked preferences and to voting over lotteries. We also survey results on majority cycling in the multidimensional spatial model.

- J. Duggan (2017) “Abbreviated Notes on Social Choice”

3 Downsian Elections

We cover Downsian models of elections under different assumptions on the objectives and information of the candidates, and we find a strong connection between pure strategy equilibria and the majority core. We focus particularly on existence of equilibrium outcomes, which sometimes requires attention to mixed strategy equilibria. Applications include determination of taxes and the role of campaigns.

- J. Duggan (2014) “A Survey of Equilibrium Analysis in Spatial Models of Elections”
- J. Duggan and C. Martinelli (2017) “The Political Economy of Dynamic Elections: Accountability, Commitment, and Responsiveness,” *Journal of Economic Literature*, 55: 916–984 (Section 2)
- K. Roberts (1977) “Voting over Income Tax Schedules,” *Journal of Public Economics*, 8: 329–340
- G. Kramer (1977) “A Dynamical Model of Political Equilibrium,” *Journal of Economic Theory*, 16: 310–334
- A. Meltzer and S. Richard (1981) “A Rational Theory of the Size of Government,” *Journal of Political Economy*, 89: 914–927
- A. Alesina (1988) “Credibility and Policy Convergence in a Two-party System with Rational Voters,” *American Economic Review*, 78: 796–803
- Laffond, Laslier, and Le Breton (1993) “The Bipartisan Set of a Tournament Game,” *Games and Economic Behavior*, 5: 182–201
- A. Dixit and J. Londregan (1996) “Determinants of Success of Special Interest Groups in Redistributive Politics,” *Journal of Politics*, 58: 1132–1155

- T. Groseclose (2001) “A Model of Candidate Location when One Candidate Has a Valence Advantage,” *American Journal of Political Science*, 45: 862–886
- A. Prat (2002) “Campaign Advertising and Voter Welfare,” *Review of Economic Studies*, 69: 999–1017
- S. Coate (2004) “Political Competition with Campaign Contributions and Informative Advertising,” *Journal of the European Economic Association*, 2: 772–804
- J. Duggan and M. Jackson (2006) “Mixed Strategy Equilibrium and Deep Covering in Multidimensional Electoral Competition”
- O. Carbonell-Nicolau and E. Ok (2007) “Voting over Income Taxation,” *Journal of Economic Theory*, 134: 249–286
- A. Meirowtiz (2008) “Electoral Contests, Incumbency Advantages, and Campaign Finance,” *Journal of Politics*, 70: 681–699
- S. Callander (2008) “Political Motivations,” *Review of Economic Studies*, 75: 671–697
- E. Dekel, M. Jackson, and A. Wolinsky (2008) “Vote Buying: General Elections,” *Journal of Political Economy*, 116: 351–380
- S. Ashworth and E. Bueno de Mesquita (2009) “Elections with Platform and Valence Competition,” *Games and Economic Behavior*, 67: 191–216
- P. Hummel (2010) “On the Nature of Equilibria in a Downsian Model with Candidate Valence,” *Games and Economic Behavior*, 70: 425–445
- S. Krasa and M. Polborn (2012) “Political Competition between Differentiated Candidates,” *Games and Economic Behavior*, 76: 249–271
- J.-G. Forand (2014) “Two-party Competition with Persistent Policies,” *Journal of Economic Theory*, 152: 64–91

4 Dynamic Bargaining

We consider the problem of an agenda setter who can make a take it or leave it offer to a set of legislators with a fixed status quo; we extend the basic model to an infinite-horizon game in which bargaining continues after rejection. A particular interest is in existence of equilibrium in stationary strategies, and we again find connections between equilibrium predictions and the core.

- J. Duggan (2014) “Notes on Spatial Bargaining and Stochastic Games” (Sections 2 and 3)

- T. Romer and H. Rosenthal (1978) “Political Resource Allocation, Controlled Agendas, and the Status Quo,” *Public Choice*, 33: 27–43
- D. Baron and J. Ferejohn (1989) “Bargaining in Legislatures,” *American Political Science Review*, 83: 1181–1206
- D. Ray and R. Vohra (1999) “A Theory of Endogenous Coalition Structures,” *Games and Economic Behavior*, 26: 286–336
- J. Banks and J. Duggan (2000) “A Bargaining Model of Collective Choice,” *American Political Science Review*, 94: 73–88
- H. Eraslan and A. Merlo (2002) “Majority Rule in a Stochastic Model of Bargaining,” *Journal of Economic Theory*, 103 : 31–48
- J. Banks and J. Duggan (2006) “A General Bargaining Model of Legislative Policy-making,” *Quarterly Journal of Political Science*, 1: 49–85
- T. Kalandrakis (2006) “Proposal Rights and Political Power,” *American Journal of Political Science*, 50:441–448
- T. Kalandrakis (2006) “Regularity of Pure Strategy Equilibrium Points in a Class of Bargaining Games,” *Economic Theory*, 28: 309–329
- S.-J. Cho and J. Duggan (2009) “Bargaining Foundations of the Median Voter Theorem,” *Journal of Economic Theory*, 144: 851–868
- D. Cardona and C. Ponsati (2011) “Uniqueness of Stationary Equilibria in Bargaining One-dimensional Policies under (Super) Majority Rules,” *Games and Economic Behavior*, 73: 65–75
- H. Eraslan and A. McLennan (2013) “Uniqueness of Stationary Equilibrium Payoffs in Coalitional Bargaining,” *Journal of Economic Theory*, 148: 2195–2222
- J. Duggan and Z. Ma (2017) “Extreme Agenda Setting Power in Dynamic Bargaining Games,” working paper

5 Political Accountability

We examine the basic two-period model of elections when incomplete information is present. An optimal choice for the politician must trade off current utility for increased probability of re-election, leading to possibilities for shirking or responsiveness. Non-convexities in payoffs may necessitate the need for mixed strategies, and in the basic model, increased benefits of office lead to greater responsiveness. Incentives to pander may, however, lead to political inefficiency.

- J. Duggan and C. Martinelli (2017) “The Political Economy of Dynamic Elections: Accountability, Commitment, and Responsiveness,” *Journal of Economic Literature*, 55: 916–984 (Section 3)
- B. Canes-Wrone, M. Herron, and K. Shotts (2001) “Leadership and Pandering: A Theory of Executive Policymaking,” *American Journal of Political Science*, 45: 532–550
- T. Besley and A. Case (2003) “Political Institutions and Policy Choices: Evidence from the United States,” *Journal of Economic Literature*, 41: 7–73
- E. Maskin and J. Tirole (2004) “The Politician and the Judge: Accountability in Government,” *American Economic Review*, 94: 1034–1054
- S. Ashworth (2005) “Reputational Dynamics and Political Careers,” *Journal of Law, Economics, and Organization*, 21: 441–466
- S. Ashworth and Ethan Bueno de Mesquita (2008) “Electoral Selection, Strategic Challenger Entry, and the Incumbency Advantage,” *Journal of Politics*, 70: 1006–1025
- J. Fox and K. Shotts (2009) “Delegates or Trustees? A Theory of Political Accountability,” *Journal of Politics*, 71: 1225–1237
- J. Alt, E. Bueno de Mesquita, and S. Rose (2011) “Disentangling Accountability and Competence in Elections: Evidence from US Term Limits,” *Journal of Politics*, 73: 171–186
- D. Acemoglu, G. Egorov, and K. Sonin (2013) “A Political Theory of Populism,” *Quarterly Journal of Economics*, 128: 771–805
- J. Duggan and C. Martinelli (2017) “Electoral Accountability and Responsive Democracy,” working paper

6 Models of Lobbying

Lobbying can take the form of information transmission or the exchange of policy concessions for valuable resources, i.e., *quid pro quo*. We focus on the latter form, where interest groups can affect politicians’ incentives, moving policy choices or votes in the direction of their preference.

- D. Bernheim and M. Whinston (1986) “Common Agency,” *Econometrica*, 54: 923–942
- G. Grossman and E. Helpman (1994) “Protection for Sale,” *American Economic Review*, 84: 833–850

- G. Grossman and E. Helpman (1996) “Electoral Competition and Special Interest Politics,” *Review of Economic Studies*, 63: 265–286
- A. Dixit, G. Grossman, and E. Helpman (1997) “Common Agency and Coordination: General Theory and Application to Government Policy Making,” *Journal of Political Economy*, 105: 752–769
- J. Banks (2000) “Buying Supermajorities in Finite Legislatures,” *American Political Science Review*, 94: 677–681
- D. Laussel and M. Le Breton (2001) “Conflict and Cooperation: the Structure of Payoffs in Common Agency,” *Journal of Economic Theory*, 100: 93–128
- T. Besley and S. Coate (2001) “Lobbying and Welfare in a Representative Democracy,” *Review of Economic Studies*, 68: 67–82.
- D. Bergemann and J. Valimaki (2003) “Dynamic Common Agency,” *Journal of Economic Theory*, 111: 23–48
- R. Hall and A. Deardorff (2006) “Lobbying as Legislative Subsidy,” *American Political Science Review*, 100: 69–84
- J. Snyder and M. Ting (2008) “Interest Groups and the Electoral Control of Politicians,” *Journal of Public Economics*, 92: 482–500
- E. Dekel, M. Jackson, and A. Wolinsky (2009) “Vote Buying: Legislatures and Lobbying,” *Quarterly Journal of Political Science*, 4: 103–128
- B. Richter, K. Samphantharak, and J. Timmons (2009) “Lobbying and Taxes,” *American Journal of Political Science*, 53: 893–909
- M. Bertrand, M. Bombardini, and F. Trebbi (2011) “Is It Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process,” working paper
- M. Bombardini and F. Trebbi (2011) “Votes or Money? Theory and Evidence from the US Congress,” *Journal of Public Economics*, 95: 587–611
- J. de Figueiredo and B. Richter (2014) “Advancing the Empirical Research on Lobbying,” *Annual Review of Political Science*, 17: 163–185
- K. Kang (2016) “Policy Influence and Private Returns from Lobbying in the Energy Sector,” *Review of Economic Studies*, 83: 269–305
- P. Bils, J. Duggan, and G. Judd (2017) “Lobbying and Policy Extremism in Repeated Elections,” working paper
- S. Wolton (2007) “Lobbying, Inside and Out: How Special Interest Groups Influence Policy Choices,” working paper

7 Bargaining with Endogenous Status Quo

We return to the topic of bargaining, now with the addition of an endogenously evolving state variable. This complicates the strategic calculations of politicians (or other agents), and it raises difficulties for existence and characterization of equilibria. Aside from a small amount of work at the general level, much applied work takes a constructive approach to the analysis of a particular equilibrium selection.

- J. Duggan (2014) “Notes on Spatial Bargaining and Stochastic Games,” Section 5
- D. Baron (1996) “A Dynamic Theory of Collective Goods Programs,” *American Political Science Review*, 90: 316–330
- T. Kalandrakis (2004) “A Three-Player Dynamic Majoritarian Bargaining Game,” *Journal of Economic Theory*, 116: 294–322
- T. Kalandrakis (2009) “Minimum Winning Coalitions with Endogenous Status Quo,” *International Journal of Game Theory*, 39: 617–643
- M. Battaglini and S. Coate (2007) “Inefficiency in Legislative Policy-making: A Dynamic Analysis,” *American Economic Review*, 97: 118–149
- M. Battaglini and S. Coate (2008) “A Dynamic Theory of Public Spending, Taxation, and Debt,” *American Economic Review*, 98: 201–236
- R. Lagunoff (2009) “The Dynamic Reform of Political Institutions,” *Games and Economic Behavior*, 67: 569–583
- V. Anesi (2010) “Non-cooperative Foundations of Stable Sets in Voting Games,” *Games and Economic Behavior*, 70: 488–493
- J. Bai and R. Lagunoff (2011) “On the Faustian Dynamics of Policy and Political Power,” *Review of Economic Studies*, 78: 17–48
- J. Duggan (2011) “Coalitional Bargaining Equilibria” *Games and Economic Behavior*, 102: 111–126
- J. Duggan and T. Kalandrakis (2012) “Dynamic Legislative Policy Making” *Journal of Economic Theory*, 147: 1653–1688
- D. Acemoglu, G. Egorov, and K. Sonin (2012) “Dynamics and Stability of Constitutions, Coalitions, and Clubs” *American Economic Review*, 102: 1446–1476
- V. Anesi and D. Seidmann (2014) “Bargaining over an Endogenous Agenda,” *Theoretical Economics*, 9: 445–482

- M. Richter (2014) “Fully Absorbing Dynamic Compromise,” *Journal of Economic Theory*, 152: 92–104
- V. Anesi and D. Seidmann (2015) “Bargaining in Standing Committees with an Endogenous Default,” *Review of Economic Studies*, 82: 825–867
- J. Zappal (2016) “Markovian Equilibria in Dynamic Spatial Legislative Bargaining: Existence with Three Players,” *Games and Economic Behavior*, 98: 235–242
- V. Anesi and J. Duggan (2017) “Existence and Indeterminacy of Markovian Equilibria in Dynamic Bargaining Games,” working paper
- J. Zappal (2017) “Simple Markovian Equilibria in Dynamic Spatial Legislative Bargaining,” working paper

8 Infinite-horizon Accountability Models

The last topic is models of infinitely repeated elections with incomplete information. We focus on existence of equilibria that are stationary, in an appropriate sense, and the incentives of politicians to respond, in equilibrium, to the preferences of voters .

- J. Duggan and C. Martinelli (2017) “The Political Economy of Dynamic Elections: Accountability, Commitment, and Responsiveness,” *Journal of Economic Literature*, 55: 916–984 (Sections 4–6)
- R. Barro (1973) “The Control of Politicians: An Economic Model,” *Public Choice*, 14: 19–42
- J. Ferejohn (1986) “Incumbent Performance and Electoral Control,” *Public Choice*, 50: 5–25
- J. Banks and R. Sundaram (1993) “Moral Hazard and Adverse Selection in a Model of Repeated Elections,” in *Political Economy: Institutions, Information, Competition, and Representation*, eds W. Barnett et al., New York: Cambridge University Press
- J. Banks and R. Sundaram (1998) “Optimal Retention in Agency Problems,” *Journal of Economic Theory*, 82: 293–323
- J. Duggan (2000) “Repeated Elections with Asymmetric Information,” *Economics and Politics*, 12: 109–136
- D. Bernhardt, S. Dubey, and E. Hughson (2004)

- J. Banks and J. Duggan (2008) “A Dynamic Model of Democratic Elections in Multidimensional Policy Spaces,” *Quarterly Journal of Political Science*, 3: 269–299
- D. Bernhardt, L. Campuzano, F. Squintani, and O. Camara (2009) “On the Benefits of Party Competition,” *Games and Economic Behavior*, 66: 685–707
- D. Bernhardt, O. Camara, and F. Squintani (2011) “Competence and Ideology,” *Review of Economic Studies*, 78: 487–522
- O. Camara (2012) “Economic Policies of Heterogeneous Politicians,” working paper
- R. van Weelden (2013) “Candidates, Credibility, and Re-election Incentives,” *Review of Economic Studies*, 80: 1622–1651
- H. Sieg and C. Yoon (2017) “Estimating Dynamic Games of Electoral Competition to Evaluate Term Limits in US Gubernatorial Elections,” *American Economic Review*, 107: 1824–1857
- J. Duggan (2017) “Term Limits and Bounds on Policy Responsiveness in Dynamic Elections,” *Journal of Economic Theory*, 170: 426–463