PEC 575: Social Choice, and Elections

The course covers models of elections and legislative bargaining, with a special focus on dynamics and incomplete information and the fundamental connections between the two modeling applications. We begin with background in social choice theory, which includes topics such as Arrow's theorem and the cycling theorems on majority voting and which is used in the later game-theoretic analyses. We then review the workhorse models of one-shot elections and policy making from the political economy literature. Then, after a brief review of abstract dynamic games, we extend the workhorse models to dynamic legislative bargaining (in which a status quo policy evolves endogenously over time) and repeated elections (in which politicians' choices or preferences are unobserved by voters). The course will consist of a mix of lectures, discussion, student presentation of assigned readings, and a final exam. Some of the analysis will require relatively advanced mathematics, but background will be provided as needed. My math survey, which is terse but hopefully e! cient, provides the tools needed for the course, and then some; and the real math books cited in the survey of course o" er a much deeper education in mathematics.

"[Basic Concepts in Mathematical Analysis: A Tourist Brochure](#)" (2012)

Social choice
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.

Government," Journal of Political Economy, 89: 914--927

general state and action spaces, illustrated with counterexamples from the literature. The main approaches to the existence problem will be surveyed, with special attention to the addition of noise to the model.

P. Dutta and R. Sundaram (1998) "The Equilibrium Existence Problem in General Markovian Games,'' in Mukul Majumdar, ed., Organizations with Incomplete Information: Essays in Economic Analysis, A Tribute to Roy Radner, Cambridge

A. Nowak and T. Raghavan (1992) "Existence of Stationary Correlated Equilibria with Symmetric Information for Discounted Games,'' Mathematics of Operations Research, 17: 519--526

J. Duggan (2011) "Noisy Stochastic Games,'' Econometrica, 80: 2017--2045

Dynamic bargaining with moving 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 di!culties for existence and characterization of equilibria. In addition to a small amount of work at the general level, we will review several applied papers that take a constructive approach to the analysis of a particular equilibrium selection. Of note is an interpretation of alternating move bargaining with a class of dynamic election models stemming from work of Kramer.

J. Duggan and T. Kalandrakis (2011) "Dynamic Legislative Policy Making" Journal of Economic Theory, 147: 1653--1688

J. Duggan (2011) "Coalitional Bargaining Equilibria"

T. Kalandrakis (2004) "A Three-Player Dynamic Majoritarian Bargaining Game,'' Journal of Economic Theory, 116: 294--322

T. Kalandrakis (2009) "Minimum Winning Coalitions with

617--643

M. Battaglini and S. Coate (2007) "Ine! ciency 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

P. Klein, P. Krusell, and J. Rios-Rull (2008) "Time-Consistent Public Policy," Review of Economic Studies, 75: 789--808

R. Laguno'' (2009) "The Dynamic Reform of Political Institutions,'' Games and Economic Behavior, 67: 569--583

J. Bai and R. Laguno'' (2011) "On the Faustian Dynamics of Policy and Political Power," Review of Economic Studies, 78: 17--48

D. Acemoglu, G. Egorov, and K. Sonin (2012) "Dynamics and Stability of Constitutions, Coalitions, and Clubs"

S. Nunnari and J. Zapal (2013) "Dynamic Policy Competition, Ideological Polarization, and the Value of Veto Rights"

G. Kramer (1977) "A Dynamical Model of Political Equilibrium,'' Journal of Economic Theory, 16: 310--334S33-0.4 10 -0.4 (ol) -0.1 (
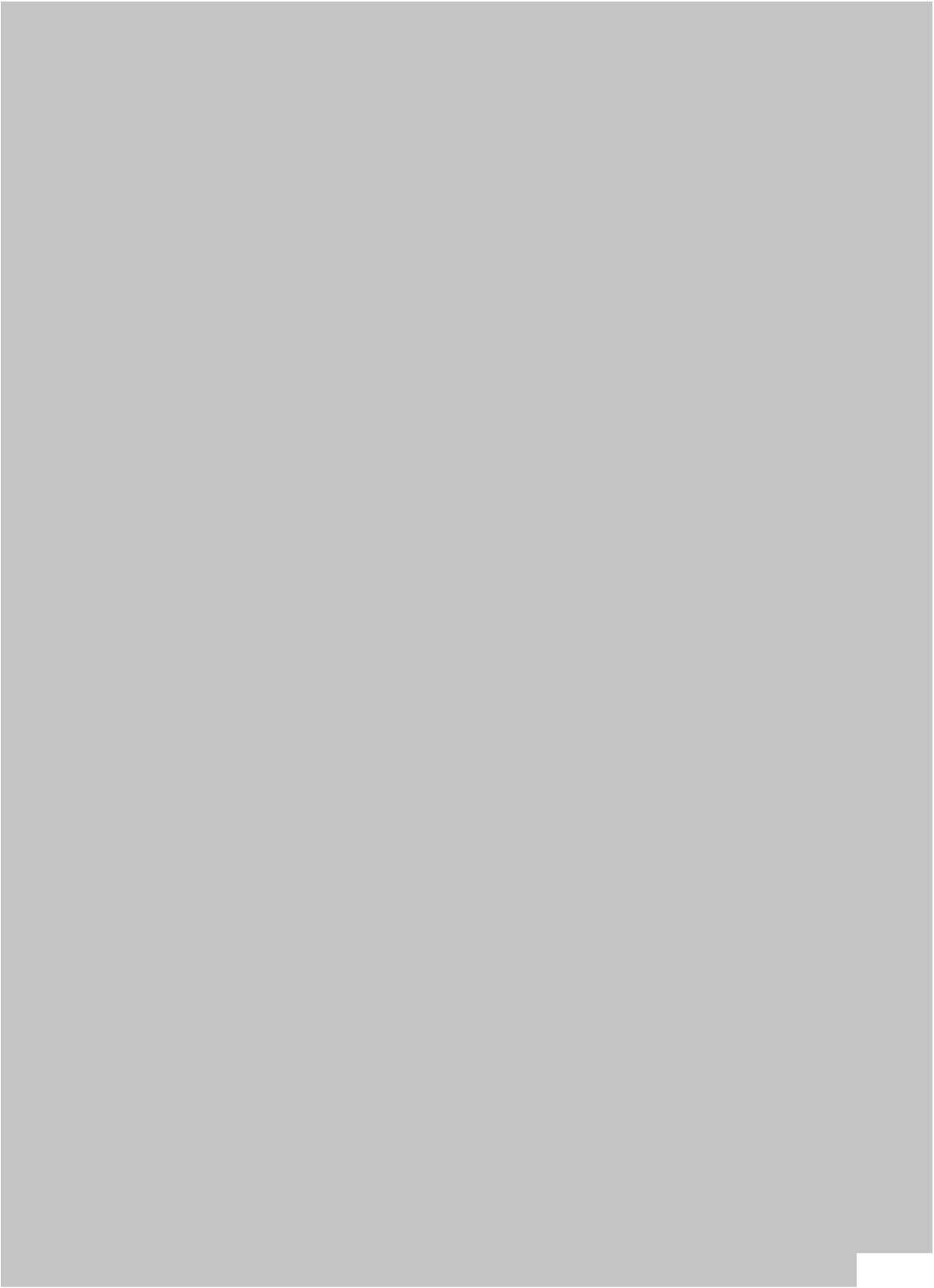
Problems," Journal of Economic Theory, 82: 293--323